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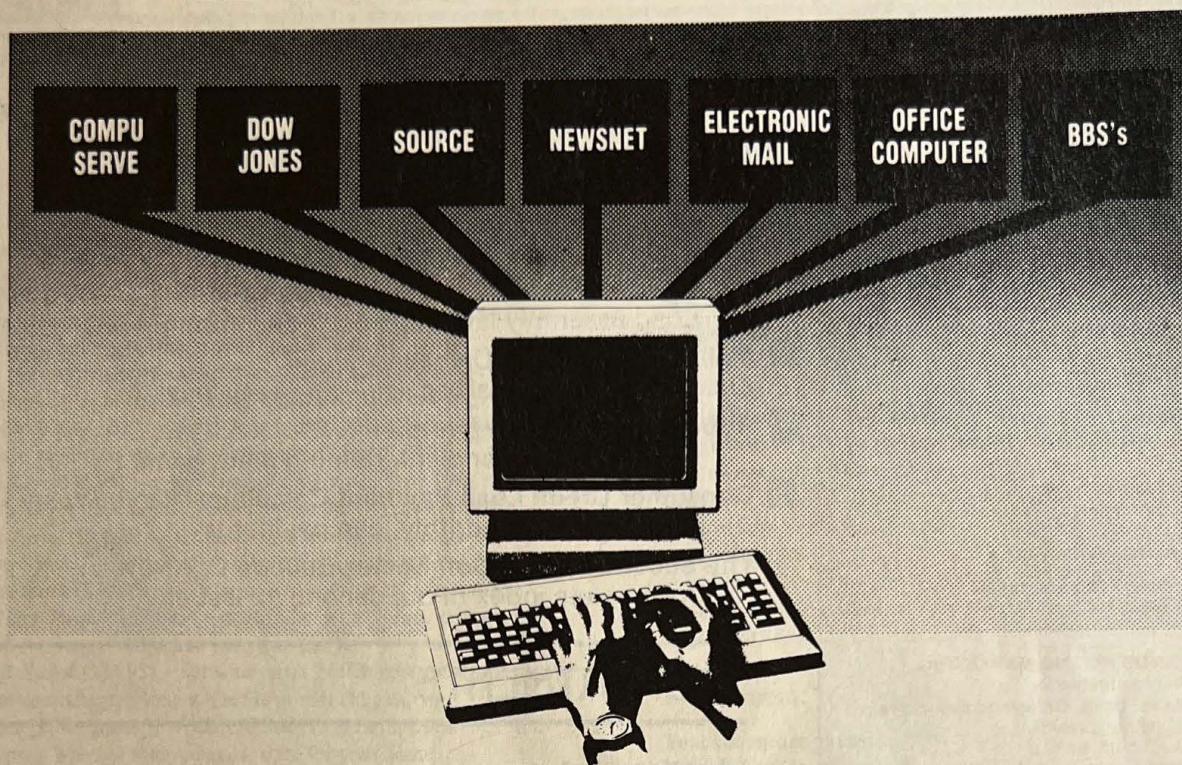
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Vol. III, Issue 1

August 1986

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CONTENTS

FEATURES

- **Display WordStar Print Features/Johnathan Black** 10
View your documents before printing
- DOS Printer Pranks/Fred Blechman** 14
Select print features from the DOS level
- **BLOAD/Jim Paisley** 19
Load assembly language programs from BASIC
- **Mailing List/Ciro R. Camacho** 28
Maintaining a mailing list — the easy way!
- **RoboMath/Leonard Hyre** 36
An educational and entertaining math game
- **Consumer Credit Loan Payment Calculator/Rabin Prusty** 44
Compute your monthly loan payments
- The Second Year of Soft Sector/Belinda C. Kirby** 52
A complete index of our second 12 issues

DEPARTMENTS

- Advertisers Index** 61
- Back Issue Order Form** 59, 60
- Business Sector/Charlotte & Brian Stone** 57
Solutions to your applications problems
- Delphi Bureau/Kevin Nickols** 43
- Letters To The Editor** 8
- Racksellers** 62
- Soft Soapbox/Belinda Kirby** 7
News and comments
- Soft Talk** 56
New products and services
- Submitting Material** 26
- Subscription Information** 60

REVIEWS

- Compu-Golf/DGT, Inc.** 50
- DC-10/MichTron** 49
- Key Entry III/Southern Computer Systems** 48
- Math Tutor I/DDR Software Associates** 51
- QuickCode & Program Development/Software Blueprints, Inc.** 50

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- The small disk symbols appearing beside features and regular columns indicate that the program listings with those articles are on this month's **SOFT SECTOR ON DISK**, ready to LOAD and RUN. For full details, see the **SOFT SECTOR ON DISK** ad on Page 6.



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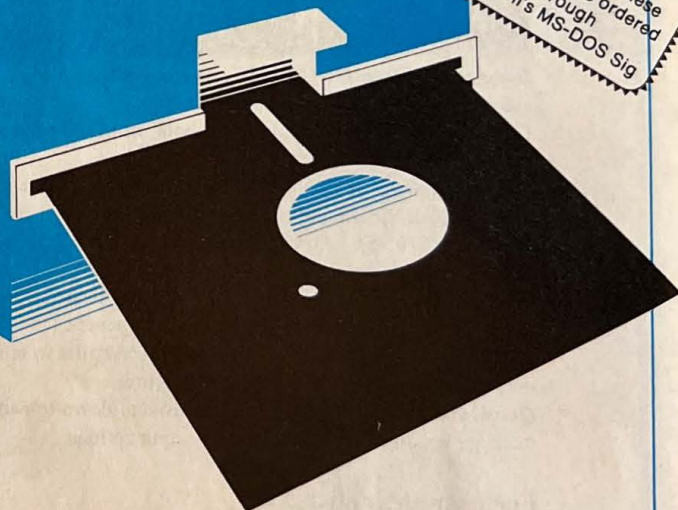
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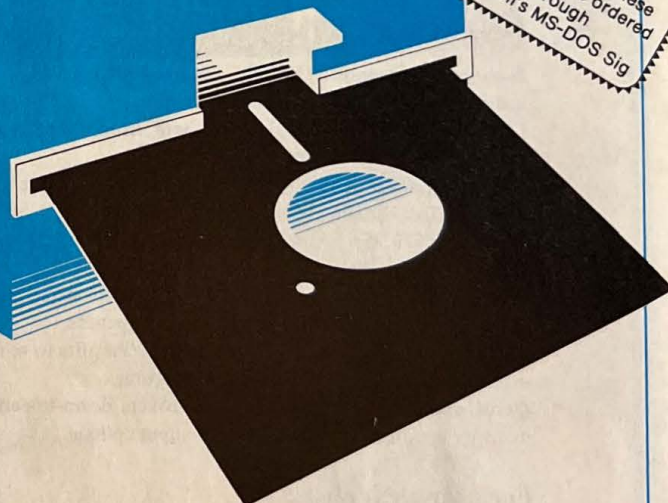
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SOFT SOAPBOX

This issue marks the end of our second year of publication, and as we

enter our third, we would like to

bring some management changes to your attention.

Ed Ellers has made a lateral move into the much needed position of technical editor, leaving the managing editor position open for my return. Ed is available during regular office hours for those who have problems with programs published in the magazine or for those who have problems with things such as SOFT SECTOR ON DISK. We hope you'll take advantage of Ed's technical expertise and call on him whenever you have a problem.

While we're on the subject of technical problems, we are happy to report that "Input/Output," our technical Q & A column, will resume in the September issue and will be written by Mark Zeiger, the manager of research and development at Sanyo Business Systems Corp. And who better to write this column than Mark, an expert on the inner-workings of our machines.

By the way, the MBC-775 is gaining national recognition. In the July issue of *PC World* there is a review of the 775 marking it as *the* portable color computer. As you know, the 775 is the first portable to offer a color monitor. The reviewer also made mention of the switchable clock speed and was pleased with the keyboard layout. Now, maybe

others in the computing world will find out what we already know!

As we now support the 775 and later model IBM-compatible Sanyo machines, we would again like to urge all programmers to send in any programs you have written in GW-BASIC.

In an effort to help you know what to send in and when, we have compiled an editorial calendar with a theme for each month. These monthly themes are as follows: January, Beginner's Issue; February, Business/Finance; March, Utilities; April, Applications; May, Printers; June, Education; July, Home Help/Hobbies; August, Anniversary; September, Games; October, Hardware/Graphics; November, Data Communications; and December, Holiday Issue. We reserve the right, however, to change this calendar from time to time should the need arise.

To the extent that you can adapt your future offerings to these themes, we will appreciate it. Any articles or programs submitted for these particular themes must be received on or *before* the first of the month, three months in advance. This means, if you are submitting an article for the June issue, your submission should arrive on or before March 1.

As a service to you, we have included in this issue a year-end index to the second 12 issues of SOFT SECTOR. Check Page 52 for a complete reference to all articles, tutorials, reviews and one-liners published during our second year of publication.

Finally, a reminder to all charter subscribers: If you haven't renewed your subscription yet, now is the time! Join us in our third year as we remain *the* magazine for Sanyo personal computer users.

— Belinda Kirby

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LETTERS TO THE EDITOR

NEW MENU ITEMS

Editor:

Thought your readers might be interested in an enhancement I've made to my program MENU.BAS. When I wrote the program, I had no idea that there would be so much interest in getting the menu from different drives. The program changes will allow the user to obtain the menu and run programs from drive A, B, C or D from any default drive. Key in the following line changes and additions:

```
.
.
60 LOCATE 4,12,1:INPUT "MENU OF
WHICH DRIVE? (ENTER A:, B:, C:, OR
D:) ";D$
65 IF D$<>"A:" AND D$<>"B:" AND
D$<>"C:" AND D$<>"D:" THEN 30
67 DR=ASC(D$)-64:LOCATE
7,26,1:PRINT "ONE MOMENT PLEASE"
.
.
115 POKE &HFC,DR
.
.
210 CLS:PRINT TAB(22) "MENU OF
DRIVE ";D$
.
.
340 RUN D$+CH$(C)
.
.
```

These changes will work on the Sanyo and GW-BASIC versions. For you assembler buffs, Line 115 POKES in the selected drive number in the first byte of the File Control Block (FCB), 0 for default drive, 1 for A, 2 for B, etc. Warning: If you select a drive that doesn't exist, you will be bumped out of BASIC to DOS.

Hope you find the information helpful.

Ray C. Robinson
Lake Charles, LA

VIDEO BOARD TIPS

Editor:

Carl Goad, in your "Ask Sanyo" department, questioned about the possible

use of the Video RAM Board with a hard disk. Yes, the Video RAM Board uses a 62-pin connector needed for the hard disk controller card, but the MPA board from TW Technologies creates a second 62-pin bus located at the rear of the computer.

This new expansion bus port can be used for a hard disk when the video board is installed. The only drawback is the hard disk and controller card must now be externally mounted in a self-contained cabinet with power supply. The MPA board provides a nice, clean, uncluttered installation.

I have also found that *Managing Your Money* works with the Video RAM Board and one double-sided, double-density drive. The program performs more efficiently with two, but can be installed for one.

The only drawback with trying to use *MYM* is with a monochrome monitor since most of the displays are unreadable. This can be solved with a monochrome adaptor designed for the IBM color graphics board. It is available from: Power-R, Inc., 4016 Interlake, North Seattle, WA 98103; (206) 547-8000; Part 100-2124-00, \$100 (SOFT SECTOR, August, '85).

It would seem to me, *MYM* would work fine without the adapter when using an RGB monitor, but I haven't tried it.

While I enjoy your magazine, the last comment is a complaint. What happened to "Input/Output" with Tim Purves? His column is surely missed by many readers. His column provided answers to the hardware/software problems many of us encounter. Many of the answers to these questions by "Ask Sanyo" tell us information we already know, like the video board/hard disk response sounded more like an installation guide for the Video RAM Board and effectively dodged the question.

Where can the good-ol' 550 hackers like Mark Zeiger and Tim Purves be reached? Bring 'em back!

Mark Magnusson
Arlington Hts., IL

Editor's Note: We are pleased to announce that "Input/Output" will resume with the September '86 issue. It will be written by Mark Zeiger, marketing manager of research and development for Sanyo Business Systems Corp.

SEEKING SOFTWARE

Editor:

I am curious about something and am

PAR
AVION

hoping you can help me. I have a Sanyo MBC 4050 with dual disk drives. It uses double-sided, double-density disks. I was wondering if the Bible, in any form, is available on disk for my computer.

Any information that you can give me in this area will be greatly appreciated. Thank you very much.

Matthew Levine
Rutland, VT

Editor's Note: Since we do not cover your machine, we are unaware of a Bible program that you might be able to use. However, you may check with MVP Software (see following letter) to see if they might be of some help.

Editor:

We would like to inform your readers that Bill Branham's *Scripture Memory* program, reviewed in the November '85 issue of *SOFT SECTOR* (*Scripture Memory — Learning Bible Verse the Easy Way*), is now available exclusively from MVP Software.

Version 2 is even more user-friendly and fun, and the documentation has been extensively rewritten, but we have retained all the features that make *Scripture Memory* "a unique, easy and fun way to learn Bible verse." Anyone interested should write: MVP Software, 1035 Dallas SE, 49507 or call (616) 245-8376.

David C. Snyder
MVP Software
Grand Rapids, MI

Editor:

Help! There would appear to be no shortage of software programs for such purposes as word processing, database or spreadsheets, and there are lots of programs available for Sanyo computer users who like to play games. I am having a very hard time, however, finding some rather specialized software which will run on my Sanyo MBC-555-2.

As a partner in a syndicate which owns a number of harness racing horses, I have become very interested in handicapping. There are supposed to be several programs on the market which are intended as an aid to harness racing handicappers, but I have drawn a blank with the dealer who sold me my system. This same dealer handles Apple, Commodore, Sperry, Macintosh, and some other brands and types of computers, but does not know of any programs for them or my Sanyo relative to harness race handicapping.

I would be grateful if you could put me in touch with one or more suppliers of software for the Sanyo system who might be able to help; better yet, if you are familiar with a particular program which is supposed to be very highly rated, could

you mention a program name? Short of writing individually to each and every advertiser in *SOFT SECTOR*, I really don't know what else to do!

David K. Orloff
Oshawa, Ontario

Editor's Note: Federal Hill Software sells a variety of handicapping programs, including harness and thoroughbred horse racing. You may contact them at 825 William St., Baltimore, MD 21230; (301) 685-6254.

KUDOS

Editor:

So many times people only write letters about Sanyo to complain. I would like to take this opportunity to share with you the excellent experience I had with one of Sanyo's employees, Mr. Mark Zeiger.

In late March, I finally received the long-awaited VB512 which I had ordered from Chryson Computers. I installed the new board and ran a few of my canned programs. I then tried to load *EasyWriter* and it kept kicking out to the DOS prompt. I fiddled with it for awhile, taking the VB in and out and checking all my connections. Finally, in frustration, I called the president of the Lehigh Valley Sanyo Users Group, and explained my problem. He suggested that I remove the first chip in the new 256K of memory and that I check with Sanyo if I still had problems; he suggested Mr. Mark Zeiger. I removed the memory chip and *EasyWriter* loaded.

The next morning, I called Mr. Zeiger and explained my problem. He indicated that they had a quick patch program that would enable *EasyWriter* to load with the VB512 loaded with memory and that he would drop it in the mail to me. A day later I had the patch and I was up and running with 512K!

Hat's off to Mr. Zeiger. I think too many times we complain about what we don't have instead of being thankful for the excellent machine we do have. The Sanyo 555 is a good computer and it will probably be quite a long time before I'm ready to give up on it as so many others are doing.

Thank you for the great magazine! I look forward to receiving and thoroughly reading each page, including the advertisements. You have made my MBC-555 even more enjoyable.

Carl E. Janson
A Happy Sanyo User
Green Lane, PA

Editor:

I was having a problem with my Panasonic printer which was described in

"Business Sector," Page 22 of the July '85 issue. I did nothing about it because I was using it mostly for drafts, and perfection was not required. Later, it was necessary that I correct the problem. There being no Panasonic service center nearby, I wrote the company in Secaucus, N.J. and mentioned the *SOFT SECTOR* article.

I got a telegram from Greg Smith, their service administration manager, asking for a copy of the article, which I supplied. I got another telegram from him on Thursday, February 6, 1986, furnishing a shipment account number and instructing me to have Emery Worldwide pick it up for shipment to New Jersey. Emery picked it up at 3:22 p.m. that day, and it was returned to me, repaired, at 7:59 a.m., February 11, 1986 — all at their expense. Had not a weekend intervened, it would have been returned much sooner. You can't beat that for service.

I highly recommend Greg Smith and his company to your readers.

Ralph Nader and knee-jerk politicians notwithstanding, there are many large corporations in this country and abroad who have something beside raping the public and making exorbitant profits as their only reasons for existence. There are firms that realize good service to customers means more business and increased future profits, and I think they should be recognized.

James S. Faircloth
Panama City, FL

COVERING THE BASES

Editor:

Would you please provide the name or names of any local users groups that you may know of in the British Columbia area. The magazine has been a godsend for me in areas such as BASIC programs, etc.

Also, could you please provide a catalog of the programs that you may have on previous issues of *SOFT SECTOR ON DISK*?

Tenny Berg
North Vancouver, British Columbia

Editor's Note: Please refer to SOFT SECTOR, March '86, Page 54 for our most recent clubs listing. Also, we will be running an updated clubs listing in the September '86 issue. Check the August '85 issue for past programs on SOFT SECTOR ON DISK and refer to the "Table of Contents" in this issue for the most recent year-end index of programs found on SSOD.

Now you don't have to toggle to hide
ugly control characters because you can . . .

Display WordStar Print Features Onscreen

By Jonathan Black

The limitations of *WordStar*'s screen orientation become apparent when print features such as underlining and superscript are used. Rather than being represented on the screen, these features are indicated by control-character signs which make it difficult to visualize the printed result, and which destroy the appearance of a justified right margin on the screen.

The problem is particularly apparent when the strikeover feature is used for foreign accents. The word "côte," for example, takes up four spaces on the printed page, but on the screen it would appear as "co^H^teH^G," taking up 11 spaces.

Using the toggle to hide the control characters might make the screen display somewhat neater, but it is hardly a solution to the screen-orientation problem.

The program DISPLAY.BAS is designed to overcome some of the difficulties in visualizing the printed page before the file is actually sent to the printer.

This program, written in standard Sanyo BASIC (but requiring enough memory for the GET and PUT commands), allows underlining, boldface, superscript and foreign accents to be viewed on the screen. And by substituting these graphics features for the control-character signs, the program causes the right margin on the screen to be fully justified.

Unfortunately, the program is for viewing purposes only: It does not allow the file to be edited while it is displayed in this enhanced form. The user must create a file in *WordStar* using the normal print controls, save the file, exit from *WordStar* and run DISPLAY in BASIC.

Once prompted, the user must supply the filename (preceded as usual by the drive if it is not the default). The *WordStar* file will then be read, displayed and left intact. As the file is displayed, proofreading can be done with a pad and pencil, and the file can be edited accordingly when *WordStar* is reentered.

Jonathan Black, while completing his doctorate in medieval studies, enjoys programming in BASIC and PASCAL for diverse applications. He may be contacted at 663 Huron St., B-1, Toronto, Ontario, Canada, M5R 2R8; (416) 961-2548.

(We are, of course, assuming that computers have not yet rendered pads and pencils obsolete.)

DISPLAY should work for any file that is to be printed on a letter-quality printer. The program interprets ^S, ^B and ^T in pairs as the controls for underlining, boldfacing and superscript.

For the accents, the program interprets ^H^, ^H', ^H^G and ^H", respectively, as the controls for the circumflex, grave accent, acute accent and umlaut.

If these are the print controls used in your *WordStar* files, you may type in Listing 1 now and pass over the rest of this article.

Dot matrix printers may vary considerably in terms of their capabilities. To take advantage of their diverse features, it is often necessary to utilize *WordStar*'s user-defined print controls.

If user-defined controls are used for underlining or superscript, Line 310 or 350 of DISPLAY must be changed so that the proper control character is interpreted as the signal for screen underlining or superscript.

For foreign accents, some printers offer variable language fonts, and *WordStar*'s user-defined functions can be used to change the font within a file.

Listing 2 is a routine that allows DISPLAY to interpret the accents in the foreign language fonts of the Olympia Electronic Compact NP printer. This printer has eight language fonts in its ROM. The distinctive characters for four of the fonts are listed in the following table:

0 ASCII	@	[\]	`	{		}	~
1 French	à	°	ç	§	`	é	ù	è	"
2 German	§	Ä	ö	ü	`	ä	ö	ü	ß
6 Italian	@	°	\	é	ù	à	ò	è	ì

In configuring *WordStar* to this printer, I have defined the function ^PR as the control for font changes by supplying the printer code (1Bh 52h). In writing files, I press this control followed by the language number at each font change so that the foreign characters will appear on the printed page and onscreen when DISPLAY is run.

Listing 1: DISPLAY.BAS

```

10 '                               DISPLAY, 1985
20 '       Jonathan Black, 663 Huron St. Apt. B-1, Toronto, Ont. M5R 2R8
30 DIM UL(8),SS(8)
40 PG=1:PGMK=61
50 CLS:LOCATE 5,36:PRINT "DISPLAY"
60 PRINT:PRINT TAB(32) "Jonathan Black"
70 PRINT:PRINT
80 INPUT "Name of text file";FILENAME$
90 ON ERROR GOTO 1070
100 OPEN "I",#1,FILENAME$
110 SCORE=0:SUPER=0:BOLD=0:LN=0
130 LOCATE 1,1,0:CLS
140 FOR Q=0 TO 7:PSET(Q,7):NEXT Q:GET(0,0)-(7,7),UL
150 CLS
160 IF EOF(1) THEN 1050
170 LN$=INPUT$(128,#1)
180 C=1
190 WHILE C<=LEN(LN$)
200 C$=MID$(LN$,C,1)
210 REM Display page breaks
220 IF C$<>CHR$(138) THEN 280
230 PG=PG+1:IF PG>9 THEN PGMK=60
240 PRINT CHR$(10);STRING$(PGMK,45);"p. ";MID$(STR$(PG),2)
250 IF LN<192 THEN LN=LN+16
260 GOTO 1020
270 REM Zero the parity bits for each character (soft spaces and soft CRs)
280 IF ASC(C$)>127 THEN C$=CHR$(ASC(C$)-128)
290 IF C$=CHR$(10) AND LN<192 THEN LN=LN+8
300 REM Check for ^S, ^B, and ^T
310 IF C$=CHR$(19) THEN SCORE=SCORE XOR (-1):GOTO 1020
320 IF C$=CHR$(2) THEN 350
330 IF BOLD=0 THEN BOLD=(-1):COLOR 3:GOTO 1020
340 BOLD=0:COLOR 2:GOTO 1020
350 IF C$=CHR$(20) THEN SUPER=SCORE XOR (-1):GOTO 1020
380 REM Strikeover
390 IF MID$(LN$,C+1,1)<>CHR$(8) THEN 690
400 REM Acute accent

```

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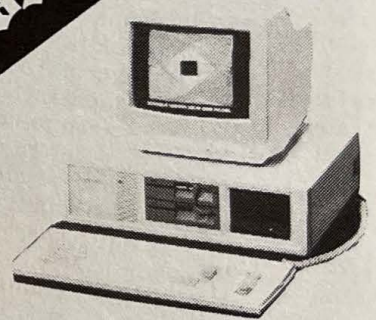
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```

410 IF MID$(LN$,C+2,1) <> CHR$(7) THEN 480
420 IF C$="a" THEN C=C+2:C$=CHR$(160):GOTO 960
430 IF C$="e" THEN C=C+2:C$=CHR$(130):GOTO 960
440 IF C$="i" THEN C=C+2:C$=CHR$(161):GOTO 960
450 IF C$="o" THEN C=C+2:C$=CHR$(162):GOTO 960
460 IF C$="u" THEN C=C+2:C$=CHR$(163):GOTO 960
470 REM Grave, accent
480 IF MID$(LN$,C+2,1) <> "." THEN 540
490 IF C$="a" THEN C=C+2:C$=CHR$(133):GOTO 960
500 IF C$="e" THEN C=C+2:C$=CHR$(138):GOTO 960
510 IF C$="i" THEN C=C+2:C$=CHR$(141):GOTO 960
520 IF C$="o" THEN C=C+2:C$=CHR$(149):GOTO 960
530 IF C$="u" THEN C=C+2:C$=CHR$(151):GOTO 960
540 REM Circumflex
550 IF MID$(LN$,C+2,1) <> "^" THEN 610
560 IF C$="a" THEN C=C+2:C$=CHR$(131):GOTO 960
570 IF C$="e" THEN C=C+2:C$=CHR$(136):GOTO 960
580 IF C$="i" THEN C=C+2:C$=CHR$(140):GOTO 960
590 IF C$="o" THEN C=C+2:C$=CHR$(147):GOTO 960
600 IF C$="u" THEN C=C+2:C$=CHR$(150):GOTO 960
610 REM Umlaut
620 IF MID$(LN$,C+2,1) <> CHR$(34) THEN 690
630 IF C$="a" THEN C=C+2:C$=CHR$(132):GOTO 960
640 IF C$="o" THEN C=C+2:C$=CHR$(148):GOTO 960
650 IF C$="u" THEN C=C+2:C$=CHR$(129):GOTO 960
660 IF C$="A" THEN C=C+2:C$=CHR$(142):GOTO 960
670 IF C$="O" THEN C=C+2:C$=CHR$(153):GOTO 960
680 IF C$="U" THEN C=C+2:C$=CHR$(154):GOTO 960
690 REM Omit soft hyphens except at end of line
700 IF C$=CHR$(30) THEN 1020 ELSE IF C$=CHR$(31) THEN C$="-"
960 PL=POS*8-8
970 PRINT C$;
980 IF SUPER THEN GET(PL,LN)-(PL+7,LN+10),SS:PUT(PL,LN-3),SS
990 IF C$=CHR$(10) OR C$=CHR$(13) THEN 1020
1000 IF C$=" " AND MID$(LN$,C+1,1)=CHR$(141) THEN 1020
1010 IF SCORE THEN PUT(PL,LN),UL,OR
1020 C=C+1
1030 WEND
1040 GOTO 160
1050 CLOSE #1
1060 END
1070 IF ERR=62 AND ERL=170 THEN RESUME 1100
1080 IF ERR=5 AND ERL=980 THEN GET(PL,LN)-(PL+7,LN+7),SS:PRINT CHR$(8);" ";
1090 PUT(PL,LN-3),SS:RESUME NEXT
1100 ON ERROR GOTO 1140
1110 LN$=""
1120 C$=INPUT$(1,#1)
1130 LN$=LN$+C$:GOTO 1120
1140 IF ERR=62 AND ERL=1120 THEN RESUME 180

```

Listing 2: DISMERGE.BAS

```

25 ' DISMERGE.BAS (to be merged with DISPLAY.BAS for language font display)
120 FONT=0
360 REM Check for font change (^R)
370 IF C$=CHR$(18) THEN C=C+1:FONT=VAL(MID$(LN$,C,1)):GOTO 1020
710 REM Accents in dot-matrix language fonts
720 IF FONT=0 THEN 960 ELSE IF FONT=6 THEN 900 ELSE IF FONT=2 THEN 810
730 REM Font 1--French
740 IF C$="@" THEN C$=CHR$(133):GOTO 960
750 IF C$="|" THEN C$=CHR$(151):GOTO 960
760 IF C$="{" THEN C$=CHR$(130):GOTO 960
770 IF C$="}" THEN C$=CHR$(138):GOTO 960
780 IF C$="\ " THEN C$=CHR$(135)
790 GOTO 960
800 REM Font 2--German
810 IF C$="|" THEN C$=CHR$(148):GOTO 960
820 IF C$="{" THEN C$=CHR$(132):GOTO 960
830 IF C$="}" THEN C$=CHR$(129):GOTO 960
840 IF C$="~" THEN C$=CHR$(225):GOTO 960
850 IF C$="\ " THEN C$=CHR$(153):GOTO 960
860 IF C$="[" THEN C$=CHR$(142):GOTO 960
870 IF C$="]" THEN C$=CHR$(154)
880 GOTO 960
890 REM Font 6--Italian
900 IF C$="|" THEN C$=CHR$(149):GOTO 960
910 IF C$="{" THEN C$=CHR$(133):GOTO 960
920 IF C$="}" THEN C$=CHR$(138):GOTO 960
930 IF C$="~" THEN C$=CHR$(141):GOTO 960
940 IF C$="]" THEN C$=CHR$(130):GOTO 960
950 IF C$="'" THEN C$=CHR$(151)

```


DOS

PRINTER PRANKS

By Fred Blechman

Most *SOFT SECTOR* readers know Fred Blechman as the author of "BASIC Training." This month, however, Fred is falling out of the ranks and marching into the land of MS-DOSdom. What you'll find in this month's column, "DOS Printer Pranks," are several well-defined tips on getting the most from your printer by using simple *CONTROL* codes from the DOS level without ever having to go into BASIC.

You probably have a printer connected to your computer. Also, you probably have learned by now that your printer — unless it's a "relic" over five years old — can be programmed with commands while in BASIC. Using one or more `CHR$(X)` commands in BASIC will allow you to generate underlines, italics, subscripts, superscripts, elongated or compressed type, specified line incrementing and all sorts of features your printer might include.

However, going into BASIC just to select various printer features is a bother at best.

Fred Blechman, an acknowledged authority on home computers, has written several articles and books related to microcomputers. He is self-taught in electronics and computer BASIC programming and specializes in writing for beginners. Fred may be contacted at 7217 Bernadine Ave., Canoga Park, CA 91307; (818) 346-7024.

Copyright © 1985 by Fred Blechman.

You may have programs that you wish to execute or print directly from DOS that require, for example, compressed printing. This article will show you how to do this directly from the keyboard without going to BASIC. There will also be a short discussion of the little-known, but powerful, *PRINT* file available in DOS 2.11.

Standard Printer Codes

Unfortunately, almost no two printer models use exactly the same commands to accomplish the same things, even if they are from the same manufacturer! Furthermore, some printers have a lot more features than others, especially among the dot-matrix brands.

Although the word "standard" in the computer field is about as far from true as the word "compatible," the so-called "Epson-standard commands" are about as close to standard as any in the printer field. For this reason, I've chosen to use a Star SG-10, an Epson-like printer, for the illustrations in this article. However, you'll need to refer to your printer manual

to determine the appropriate codes for your machine.

Parallel or Serial?

I used my "Centronics-compatible" SG-10 printer connected to the Sanyo parallel printer port to generate the examples and verify operation of the procedures I'll describe. Although I was also able to "command" a serial printer attached to the Sanyo RS-232 port, I don't recommend that unless you're experienced in serial interfacing.

A serial printer creates a whole set of additional problems. You need to be sure the Baud rates and word formats match. You must also be sure wires 2 and 3 in the cable are interchanged, and that "hand-shaking" is accommodated. Then, to top it all off, you need a serial port printer driver program. The only driver program I know of is called *P-S*, and it only works with a special version of Sanyo MS-DOS 1.25, thus restricting you to that DOS.

Because of all the problems in serial interfacing and operation, I will assume a parallel-connected printer for this article.

Connecting Your Printer

Connect your printer to your Sanyo parallel port and turn it on. Make sure there is plenty of paper since it will take a number of sheets to follow through my examples.

You should have a DOS disk in Drive A. The DOS can be 1.25 or 2.11, from Sanyo, A-OK or MichTron, except as specified. As a matter of fact, most of the information in this article should work with all parallel printers on any MS-DOS microcomputer!

Printer Enable/Disable

Frequently, when you're in DOS, you'd like to get a printout of whatever appears on the screen. This is called "echoing" to the printer. The easiest way to do this is by using *CONTROL-P*. If your printer is on and ready, all DOS output will now be directed to the printer and the screen. Notice that this applies only while you're in DOS. Go to BASIC and the echo has gone!

Be careful here: If your printer is off, out of paper or not ready for whatever reason, your keyboard will appear to freeze up — it won't appear to respond after accepting the first character. Actually, the additional characters are going into a buffer, and if you turn on the printer it will print or execute the command. But if you don't have a printer connected, you'll have to press *Reset* to regain control, and you'll lose whatever program or data was in memory.

To disable the printer echo and just work with the screen in DOS, press *CONTROL-N*. In other words, *CONTROL-P* turns the printer on, *CONTROL-N* turns it off.

Actually, that procedure is a holdover

from DOS 1.25 (the old single-sided DOS). With DOS 2.11, you can "toggle" either CONTROL-P or CONTROL-N to alternately turn the printer on and off. Be aware that this can cause confusion, since each subsequent CONTROL-P or CONTROL-N changes the printer enable/disable status. I'll refer to CONTROL-P from now on as the command to enable the printer. If, in fact, the printer is already enabled, you may have to hit CONTROL-P twice.

Here's another hint. Press the LF key ('1' on the numeric keypad) when the printer is active in DOS and you'll get a line feed. You can hold the key down for repeated line feeds.

COPY CON PRN: The Doorway To DOS Printer Control

Suppose you want to do more than just turn the printer on and off while in DOS. Suppose, for example, you want to command compressed or NLQ (near-letter-quality) printing. Perhaps you'd like to change the line spacing, underline, or select an international character set or italics. There is a way to command any of these features (if your printer offers them), and it's quite simple.

While in DOS, press CONTROL-P to activate the printer, which should be on and ready. You have the A prompt on the screen. Press ENTER to confirm printer operation. It should print the A prompt each time you press ENTER.

Now type COPY CON PRN and press ENTER. (While capital letters are not required, I'll use them here to help distinguish commands from text.) The printer (and screen) will print exactly what you've just typed. What you've done here is told the computer to send all keyboard input from now on, until a CONTROL-Z is received, directly to the printer. You are COPYING from the CONSOLE directly to the PRINTER.

Getting Compressed

Get out your printer manual and look for the code necessary to command compressed printing. It is probably designated as CHR\$(15), or just 15. Different manuals express these codes in different ways. Some use ASCII, hexadecimal, CHR\$(X) or decimal to specify the printer command codes. For this article, only the CHR\$(X), decimal or ASCII designations will be used. Confused? It will clear up as we proceed with some examples.

Control Key Combinations

Your Sanyo keyboard (and most micro-computer keyboards that include a control key) has been programmed to produce ASCII codes 0 to 26 using the CONTROL key in combination with a letter key. (See Table 1) You simply hold down the CONTROL key while pressing a letter key, then release them both. The ESCAPE key, all by itself, is the CHR\$(27) used by

so many printers to precede other commands.

Notice that CHR\$(15) is CONTROL-O. With the SG-10 printer, decimal 15 is the number used to command compressed printing. To send that code to the printer, which has already been alerted with the COPY CON PRN command mentioned above, simply press CONTROL-O and then ENTER. The printer and screen will respond by printing the CONTROL symbol (an up-arrowhead) followed by the letter 'O'.

To tell the computer you are finished with the COPY command, use CONTROL-Z and press ENTER. The printer and screen will print ^ Z, skip a line, then print "1 File(s) copied." Notice that although the screen printing is normal, the printer has printed in compressed mode exactly as you wanted.

From now on, unless commanded otherwise (or turned off and then back on), the printer will be in the compressed mode. To prove this, type DIR/W and press ENTER. You'll get a disk directory in the "wide" mode, but due to the compressed printing, it will fit in or on a disk jacket.

Figure 1A shows a typical directory with the DIR/W command, but printed in regular 10-character-per-inch spacing. It is about eight inches across. Figure 1B shows the same directory printed in compressed printing, and it's only about four-and-a-half inches wide.

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Figure 1
Shrink your DiREctory printouts

```
A>dir /w
Volume in drive A has no label
Directory of A:\
```

CHARSET BAS	PRTUSING BAS	STAIR BAS	FORTUNE BAS	TIMER BAS
STRINGS BAS	DATE\$ BAS	DATECONV BAS	DISTRIB BAS	ARRAY3 BAS
CALARRAY BAS	MATCHMKR BAS	DATFILE1 BAS	DATFILE1 DAT	INVENT1 BAS
COLORBAR BAS	CLRCOMB BAS	MOSAIC BAS	BORDER BAS	SYMBOL BAS
VIEW1 BAS	SINE\$ BAS	LINE1 BAS	SPOKES BAS	SINCIRC BAS
DOUGHNUT BAS	PAINTTRI BAS	CLRWHEEL BAS	STICK1 BAS	STICK2 BAS
JOYSTICK BAS	BIDGRAF BAS	IBMUSING BAS	SANUSING BAS	CGP115 BAS
MDEMO BAS	SCOPY EXE	MTEST COM	TYPEF COM	LINE55 COM
LINE55 DOC	OKISD COM	EPSONSD COM	SCRDUMP DOC	LOGO BAS
SPEEDLET BAS	TEXTSAMP	TOLL BAS	SANBANN BAS	COLLECT BAS
NAVIGATE BAS	IRA BAS	MORTGAGE BAS	INVEST BAS	LABELS BAS
INVOICE BAS				

Figure 1A

Back To Normal — And Beyond!

To return to normal printing, type COPY CON PRN (ENTER), CONTROL-R (ENTER) and then CONTROL-Z (ENTER). You'll see that "1 File(s) copied" prints in normal size. CONTROL-R is the equivalent of CHR\$(18).

Now that you see the procedure, you're ready to get into some more of the many features your printer probably has. This frequently requires two or three character commands instead of just one. But there are some things you should know when using multiple commands. Suppose, for example, your printer manual shows the code to go to italics is ESC"4". Following these instructions, it seems like all you'd have to do, after getting the printer's attention with CONTROL-P and COPY CON PRN, is press ESCAPE, followed by quote, 4, quote, ENTER, CONTROL-Z and ENTER. Wrong! The quotes will mess you up. Just use ESCAPE4 (ENTER), without even a space after pressing the ESCAPE key. CONTROL-Z (ENTER), as always, completes the COPY command.

Three-Character Commands

You might need a three-character com-

```
A>copy con prn
^O
^Z
```

1 File(s) copied

```
A>dir/w
```

```
Volume in drive A has no label
Directory of A:\
```

CHARSET BAS	PRTUSING BAS	STAIR BAS	FORTUNE BAS	TIMER BAS
STRINGS BAS	DATE\$ BAS	DATECONV BAS	DISTRIB BAS	ARRAY3 BAS
CALARRAY BAS	MATCHMKR BAS	DATFILE1 BAS	DATFILE1 DAT	INVENT1 BAS
COLORBAR BAS	CLRCOMB BAS	MOSAIC BAS	BORDER BAS	SYMBOL BAS
VIEW1 BAS	SINE\$ BAS	LINE1 BAS	SPOKES BAS	SINCIRC BAS
DOUGHNUT BAS	PAINTTRI BAS	CLRWHEEL BAS	STICK1 BAS	STICK2 BAS
JOYSTICK BAS	BIDGRAF BAS	IBMUSING BAS	SANUSING BAS	CGP115 BAS
MDEMO BAS	SCOPY EXE	MTEST COM	TYPEF COM	LINE55 COM
LINE55 DOC	OKISD COM	EPSONSD COM	SCRDUMP DOC	LOGO BAS
SPEEDLET BAS	TEXTSAMP	TOLL BAS	SANBANN BAS	COLLECT BAS
NAVIGATE BAS	IRA BAS	MORTGAGE BAS	INVEST BAS	LABELS BAS
INVOICE BAS				

Figure 1B

DOS commands for compressed printing

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mand sequence. Suppose the code for underlining is shown in your manual as ESC~"1. Here, again, eliminate the quotes and you're OK. After CONTROL-P and COPY CON PRN (ENTER), press the ESCAPE key immediately followed by ~ and 1, then ENTER. Follow with CONTROL-Z to terminate the COPY command, and you'll find "1 File(s) copied" is now underlined.

Sometimes the printer command takes the form ESC~B~CHR\$(4), where you have the ESCAPE key, a letter and a CHR\$ number.

For the SG-10, this commands near-letter-quality printing. Just press the ESCAPE key, immediately followed by the letter B (no quotes) and then the CONTROL-D combination, followed by ENTER. Why CONTROL-D instead of 4? When a number is specified with a CHR\$ designation, you must use the equivalent control code from Table 1. This is also true when a variable 'n' is specified.

For example, a triple code of ESC~M~n is used to set the left margin to a number of spaces designated by the number 'n'. Suppose you wanted 12 spaces: Your command, after CONTROL-P and COPY CON PRN (ENTER) would be ESCAPE followed immediately by the letter 'M', followed by CONTROL-L and ENTER. Table 1 shows CONTROL-L is equal to 12.

Combinations

You can command various printer features in one COPY CON PRN file. For example, suppose you wanted italics, underlined, compressed printing with lines spaced 11/72 of an inch apart. The Star SG-10 commands for these, as shown in the manual, are:

Italics: ESC~4~
Underlined: ESC~"1
Compressed: CHR\$(15)
Line spacing n/72 inch: ESC~A~n

The keyboard commands to achieve this would be:

CONTROL-P: Turns on printer
COPY CON PRN (ENTER): Addresses printer from keyboard
ESC4 (ENTER): Italics
ESC-1 (ENTER): Underline
CONTROL-O (ENTER): Compress
ESCA CONTROL-K (ENTER): Line spacing 11/72 inch
CONTROL-Z (ENTER): End COPY

(See Figure 2 for a sample printout.)

Pitfalls!

Unfortunately, you cannot use CONTROL-P or CONTROL-N (CHR\$(16) or CHR\$(14)), since they are used by MS-DOS to enable/disable the printer. Also, CONTROL-C (CHR\$(3)) interrupts whatever you're doing, so that's not usable. Except for those restrictions, and with some creativity on your part, you should be able to really make your printer do just about anything it is capable of doing — without ever going into BASIC.

But don't forget that turning off your printer power causes it to lose all special commands, and when you turn it back on, it will power up with its normal default settings. Using the printer OFF LINE switch, as opposed to turning off the power, will *not* lose the special settings.

Batch File

Once you've determined that the commands you've chosen do what you want, you can construct a simple batch file to let the computer issue the commands whenever you're in DOS. To do this, we'll use the example just given and convert it to a file we'll call TYPESET.BAT. You can use whatever eight-character name you want, but the .BAT extension is required for it to be recognized while in DOS.

From the keyboard, with the printer either on or off and the DOS A prompt on the screen, type the following "program," ending each line with ENTER:

```
COPY CON TYPESET.BAT
REM *** TURN ON PRINTER. PRESS
CONTROL P NOW!!! *** PAUSE
ESC4
ESC-1
CONTROL O
ESCA CONTROL K
CONTROL Z
```

After the final ENTER, the file will be saved on disk, followed by the "1 File(s) copied" message. To test your batch file, type TYPESET and press ENTER.

First you'll get the screen reminder to turn on your printer and press CONTROL-P to insure the printer is being addressed. (Note: If the printer is already being addressed, do not press CONTROL P or you'll turn it off.) The PAUSE allows you time to do this. As the screen says, "Strike a key when ready . . ." The printer will start printing A prompts. The first will be normal, next italic, next italic underlined, then italic underlined and compressed, and then another prompt 11/72 of an inch below the last one. Now type DIR~W and see your italic, underlined, compressed disk directory print out with 11/72 of an inch between lines, exactly as you commanded.

If you prefer, you can call the above file AUTOEXEC.BAT and it will function automatically when you turn on the computer and insert a system disk with this file on it.

Print Spooler

Now that you've got your printer all set up the way you want it, how would you like to print out a bunch of text files, data files or BASIC files saved in ASCII format?

Of course, you should be aware that the



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TYPE command in MS-DOS will do this, but at the penalty of time and flexibility. The computer is devoted to the printing process, and you must wait until a single file is printed before you can use the computer for anything else.

Not very well known is the fact that MS-DOS 2.11 supports a PRINT.COM file that acts like a "print spooler." This allows you to print up to 10 ASCII disk files in the "background" while you use other DOS commands in the "foreground." If you have a file called PRINT.COM, that's it.

To activate this file, just type PRINT. The first time you use it, the screen will say "Name of list device (PRN):." At this prompt, press ENTER. This loads the file PRINT.COM into memory and sets aside 3,200 bytes of working space until you

turn off the computer or restart DOS. A message will print on the screen telling you that PRINT is installed and the "queue" (line-up of programs to be printed) is empty.

The syntax is: PRINT filenames /T /C /P

Up to 10 filenames can be queued by specifying them one after the other. The optional "switches" T, C and P stand for Terminate, Cancel or Print.

For example, PRINT FILE1.TXT PROGRAM.ASC README.DOC will print each of the three designated files, one after the other, and allow you to operate other programs. Of course, the printer must be on. Various "wildcard" filenames may be used. Up to 10 filenames may be specified.

While all this is happening, the PRINT command can be issued from the keyboard with the various switches, as follows:

PRINT /T Terminates printing and clears the queue.
PRINT filename/C Cancels named file from the queue.
PRINT filename/P Adds named file to the queue.
PRINT Displays filenames in queue when used by itself.

There are various ramifications to the use of these switches, and any good guide to MS-DOS details their use under the PRINT command. My purpose in mentioning the PRINT command in this article is to acquaint you with its existence since it is so closely allied with DOS printing.

Figure 2

DOS commands for italics, underline, compressed printing with line spacing of 11/72 inch for SG-10 printer

```
A>COPY CON PRN
^C4
^C-1
^O
^CA^K
^Z
```

1 file(s) copied

A>DIR/W

*Volume in drive A has no label
Directory of A:*

```
COMMAND.COM  BASIC.EXE  ANSI55.SYS  BEEP.COM  BSORT.BAS
BSORT.NGR  CASE.EXE  CAT.COM  CHKDSK.COM  CLEAR.COM
CONFIG.COM  DEBUG.COM  DISKCOPY.COM  EDLIN.COM  FC.EXE
DEMO.BAS  FORMAT.COM  FPRINT.COM  LCURSOR.COM  LIST.EXE
MSHELP.EXE  MSHELP.TXT  MTEST.COM  PRINT.COM  STRIP.EXE
SYS.COM  TEXT.COM  UPDATE.COM  VIDEO.COM  SCOPY.EXE
BASICA.COM  BASICA.EXE  TD.EXE  FF.EXE  SPOOL.COM
SECCODE.BAS  CHR$SET.BAS  LABELS.BAS  LABELS3.BAS  SANLAB4.BAS
```

Table 1

Control Key Codes

Control Key Combination	Decimal CHR\$(X) ASCII	Common Name	Common Printer Use
CTRL @	0	NUL	Null
CTRL A	1	SOH	
CTRL B	2	STX	
CTRL C	3	ETX	Break
CTRL D	4	EOT	
CTRL E	5	ENQ	
CTRL F	6	ACK	
CTRL G	7	BEL	Bell
CTRL H	8	BS	Backspace
CTRL I	9	HT	Horizontal Tab
CTRL J	10	LF	Line Feed
CTRL K	11	VT	Vertical Tab
CTRL L	12	FF	Form Feed
CTRL M	13	CR	Carriage Return
CTRL N	14	SO	Printer Off
CTRL O	15	SI	
CTRL P	16	DLE	Printer On
CTRL Q	17	DC1	
CTRL R	18	DC2	
CTRL S	19	DC3	
CTRL T	20	DC4	
CTRL U	21	NAK	
CTRL V	22	SYN	
CTRL W	23	ETB	
CTRL X	24	CAN	Cancel Line
CTRL Y	25	EM	
CTRL Z	26	SUB	End of File
ESC	27	ESC	Escape

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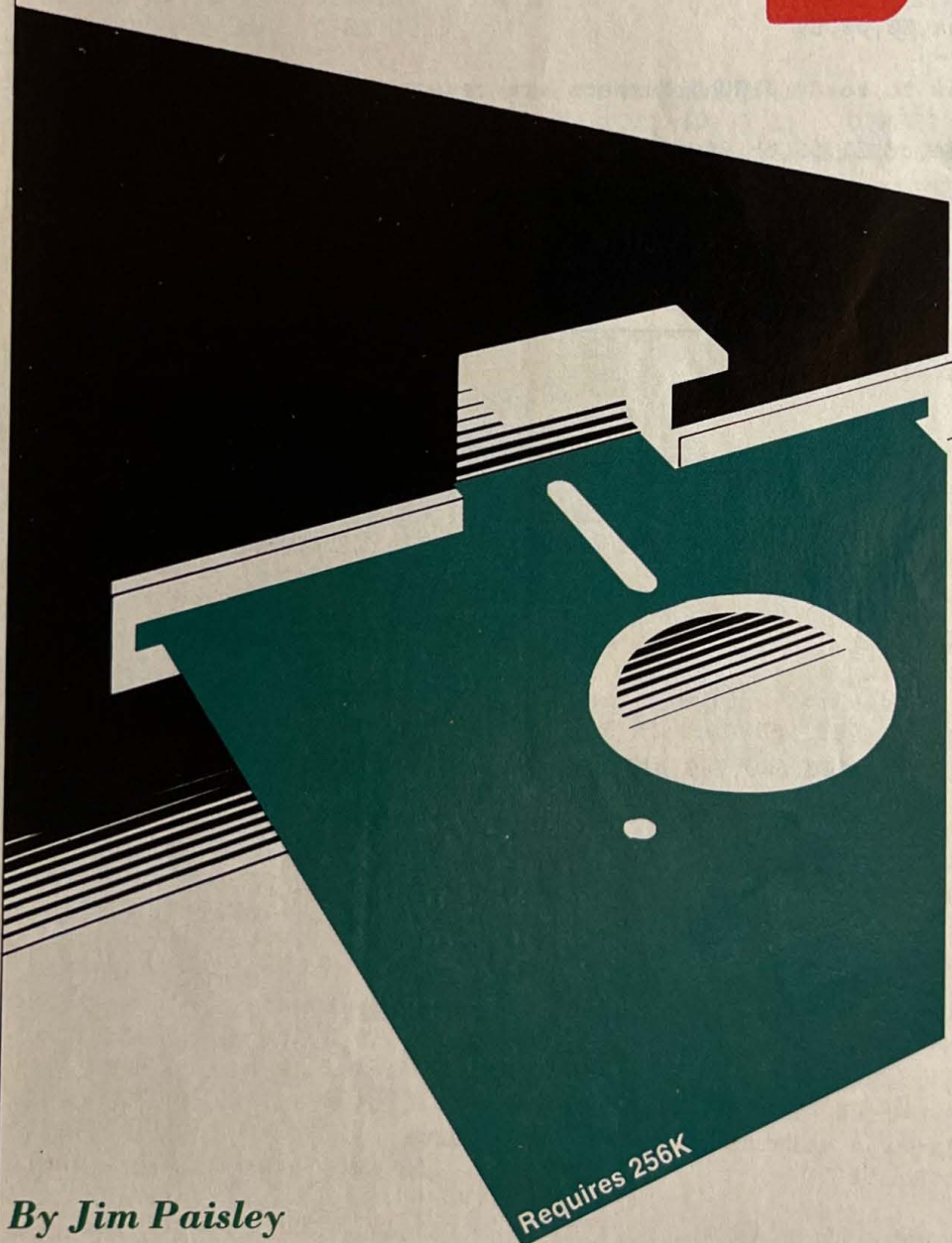
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Now you can load assembly language programs from BASIC

BLOAD



By Jim Paisley

Bload was written to speed up two basic routines: loading an assembly program by treating it as a random access file with one-byte fields, and saving large numerical arrays.

There are actually two programs, so I called one BLOAD1 and the other BLOAD2. BLOAD1 is a short program to load a binary file. It is done in BASIC to keep it fast and make it easy to interface with other programs. Just merge it into any BASIC program and insert the appropriate filename and length of file. The length of file can be greater than the number of bytes in the file.

The increase in speed will be very noticeable with programs longer than 256 bytes. In this listing, the assembly program being loaded is BLOAD2.BIN. The entire program is in data statements, but I have included an assembly language version (Listing 4) for documentation.

BLOAD2 is a longer version that can save as well as load binary files. It utilizes an assembly program conveniently loaded by the first program. The assembly routine is shown in Listing 5, BLOAD2.ASM. It can be assembled using an assembler, linker and EXE2BIN, or with DEBUG. With DEBUG, change the last statement to RETF 2B.

Listing 2 is a set of examples to use with BLOAD2. Some save a block of memory and some just use the disk as temporary storage while moving a block of memory. A RAM disk would be ideal for temporary files.

BLOAD2 has one feature that GW-BASIC does not — the file pointer may be set to any point in the file before beginning to read or write to it, unless the file was just created. Thus, random access is possible. If the file pointer is set past the end of the file during a write operation, the file will be appended, but the bytes skipped will contain undefined data.

Bload is remarkably well-behaved. You may press BREAK during the call, leave a drive door open, use an invalid filename, fill up a disk, etc., without any catastrophic results. It won't work with DOS 1.25 or the video board.

One last note: When you turn on your computer, if the first line on the screen is not "Video Ram Area 3c000-3ffff," make an adjustment to lines 880, 940 and 1000.

Jim Paisley owns and operates a Midwest dairy farm and has been writing agriculture software for several years. He may be contacted at 10690 Allen Road N.W., Washington C.H., OH 43160; (614) 948-2290.

Listing 1: BLOAD.BAS

```
5 ' Bload.bas
6 ' Jim Paisley
7 ' 10690 Allen Rd NW
8 ' Washington C.H., Oh 43160
9 '
10 ' ===== LISTING 1. BLOAD1 -- FOR DOS 2.11 =====
20 CLEAR 17: ' 5 for this program & 12 for bload2.bin
30 'if 'val' in next line gives a syntax error with basic 1.31, just run again
40 FOR X=0 TO &H42:READ Y$:Y=VAL("&H" + Y$):POKE X,Y:NEXT:CALL 0
50 X=PEEK(5)*256 + PEEK(4):IF X=0 THEN PRINT "0 bytes read":END
60 IF X<18 THEN PRINT "Error ";X:END: ELSE PRINT X " bytes read":PRINT:'assuming
   the program is longer than eighteen bytes
70 '
80 DATA eb,13,90,90,00,00
90 '
100 DATA 42,4c,4f,41,44,32,2e,42,49,4e,0,0,0,0,0 : 'filename 'BLOAD2.BIN'
110 'Should be 15 numbers on line 110
120 '
130 DATA e,1f,ba,6,0,b0,0,b4,3d,cd,21,72,1b,1e,89,c3
140 '
150 DATA 8c,ca,83,c2,05,8e,da,ba,00,00,b9
160 '
170 DATA 00,01 : 'number of bytes to read (0100h).Numbers are reversed.
180 '
190 DATA b4,3f,cd,21,1f,50,b4,3e,cd,21,58,bb,04,00,89,07,cb
200 DEF SEG = SEG + 5
210 '-----
220 '
```

Listing 2: Examples to use with BLOAD2.BIN

```
230 '
240 '
250 '---menu---
260 PRINT "1 save array A"
270 PRINT "2 restore array A"
280 PRINT "3 copy A to F"
290 PRINT "4 append a file"
300 PRINT "5 save the screen"
310 PRINT "6 restore the screen"
320 PRINT "7 sort strings"
330 PRINT "8 random access"
340 X$=INKEY$:IF X$="" THEN 340
350 ON INSTR("12345678",X$) GOTO 370,500,660,760,850,930,1080,1310:GOTO 340
360 '
370 '----(1) save an array----
380 ERASE A:DIM A(99,3): ' 100 lines, 4 columns
390 PRINT "Initializing Array A..."
400 FOR X=0 TO 99:FOR Y=0 TO 3:A(X,Y) = X*100 + Y:NEXT:NEXT
410 INPUT "Put in your own number for line 3,col 2: ",A(3,2):PRINT
420 PRINT "      column:",;:FOR X=0 TO 3:PRINT X,;:NEXT:PRINT
430 FOR X=0 TO 5:PRINT "line"X,;:FOR Y=0 TO 3:PRINT A(X,Y),;:NEXT:NEXT
440 '
450 SEGMENT% = VARPTR(A(0,0),1):OFFSET = 0
460 FILE$ = "temp": MODE% = 2: ' 0=read 1=write 2=create
470 LENGTH = 100 * 4 * 4: '100 lines, 4 columns, 4 bytes per element
480 FILE.ADDR = 0:GOSUB 1630:GOTO 250
490 '
500 '----(2) restore the array----
510 ERASE A:DIM A(99,3)
```



```

520 PRINT "Array A is erased..."
530 PRINT "      column:",;:FOR X=0 TO 3:PRINT X,;:NEXT:PRINT
540 FOR X=0 TO 5:PRINT "line "X,;:FOR Y=0 TO 3:PRINT A(X,Y),;:NEXT:NEXT
550 '
560 SEGMENT% = VARPTR(A(0,0),1):OFFSET = 0
570 FILE$ = "temp":MODE% = 0:' 0=read 1=write 2=create
580 LENGTH = 100 * 4 * 4
590 FILE.ADDR = 0:GOSUB 1630:PRINT "Array A is restored:"
600 '
610 PRINT "      column:",;:FOR X=0 TO 3:PRINT X,;:NEXT
620 FOR X=0 TO 5:PRINT "line"X,;:FOR Y=0 TO 3:PRINT A(X,Y),;:NEXT:NEXT
630 INPUT "pause...",X$:GOTO 250
640 '
650 '
660 '---(3) copy array A into the last 100 lines of array F---
670 ERASE F:DIM F(199,3)
680 SEGMENT% = VARPTR(F(0,0),1):OFFSET = 100 * 4 * 4:'100 lines,4 col,4 bytes
690 FILE$ = "temp":MODE% = 0:' 0=read 1=write 2=create
700 LENGTH = 100 * 4 * 4
710 FILE.ADDR = 0:GOSUB 1630:PRINT " 'temp' is copied into array F"
720 PRINT "      column:",;:FOR X=0 TO 3:PRINT X,;:NEXT
730 FOR X=100 TO 105:PRINT "line"X,;:FOR Y=0 TO 3:PRINT F(X,Y),;:NEXT:NEXT
740 INPUT "pause...",X$:GOTO 250
750 '
760 '---(4) append the file created in example 1---
770 ERASE A:DIM A(20,3):SEGMENT% = VARPTR(A(0,0),1) : OFFSET = 0
780 FOR X=0 TO 20:FOR Y=0 TO 3:A(X,Y)=(X+100)*100 + Y:NEXT:NEXT:'initialize -
    you can look at these lines using the random access example
790 FILE$ = "temp" : MODE% = 1: '0 = read 1 = write 2 = create
800 LENGTH = 21 * 4 * 4
810 OPEN "r",#3,"temp":FILE.ADDR = LOF(3):CLOSE:'get length of file
820 PRINT :PRINT "length of file was "; FILE.ADDR:GOSUB 1630
830 OPEN "r",#3,"temp":PRINT "length is now ";LOF(3):PRINT :CLOSE:GOTO 250
840 '
850 '---(5) save the green video ram---
860 GOSUB 990
870 SYMBOL (200,1),"Sanyo",8,8:SYMBOL (1,100),"Computers",8,8:LOCATE 21,1
880 OFFSET = 0:SEGMENT% = &H3C00:'if DOS said 'video ram area 3c000-3ffff'
890 FILE$ = "green":MODE% = 2:' 0=read 1=write 2=create
900 LENGTH = 16384:FILE.ADDR = 0:GOSUB 1630:GOTO 250
910 '
920 '
930 '---(6) restore the green video ram---
940 GOSUB 990:SEGMENT% = &H3C00:OFFSET = 0
950 FILE$ = "green":MODE% = 0:' 0=read 1=write 2=create
960 LENGTH = 16384:FILE.ADDR = 0:LOCATE 21,1:GOSUB 1630
970 INPUT "pause...",X$:GOTO 250
980 '
990 'sub: ---set the screen to home position--- ' Use &h3c00 if the opening
1000 CALLSEG = SEG:DEF SEG = &H3C00:CLS:LOCATE 25,1: ' DOS screen says "Video
1010 PSET(0,0):IF PEEK(0)<128 THEN PRINT:GOTO 1010:' Ram Area 3c000-3ffff"
1020 CLS:DEF SEG = CALLSEG:RETURN
1030 '
1040 '---note---
1050 'each time the screen scrolls the video ram is offset 128 bytes. The
    one-liner below illustrates the movement. Press enter 128 times and
    the screen will reach its starting point (128*128=16384).
1060 CLS:DEF SEG = &H3C00:POKE 0,255:LOCATE 25,1:INPUT X$:GOTO 1060
1070 '
1080 '---(7) move a string---
1090 IF I=1 THEN 1150:'already initialized
1100 DIM A$(499):DIM TEMP(3):I=1:PRINT "initializing the array..."
1110 FOR X=0 TO 499:A$(X) = "STRING # " + STR$(X):NEXT:'initialize

```



```

1120 FOR X=14 TO 18:PRINT "line";X,A$(X):NEXT:PRINT
1130 FOR X=454 TO 458:PRINT "line";X,A$(X):NEXT:PRINT
1140 '
1150 'now move string 456, placing it after string 15, and moving strings
    16 thru 455 up one space [actually juggle the address table].
1160 SEGMENT% = VARPTR(A$(0),1):OFFSET = 16 * 4:'start at a$(16)
1170 FILE$ = "strings.tmp" : MODE% = 2:' 0=read 1=write 2=create
1180 LENGTH = (456-16) * 4 : FILE.ADDR = 0 : PRINT "Saving strings":GOSUB 1630
1190 '
1200 'move string 456, then move the rest by reloading at offset of 4 bytes
1210 CALLSEG = SEG : DEF SEG = VARPTR(A$(0),1)
1220 FOR X=0 TO 3:POKE( (16*4)+X ),PEEK(( (456*4)+X )):NEXT:'move a$(456)
1230 DEF SEG = CALLSEG:'for the call
1240 SEGMENT% = VARPTR(A$(0),1):OFFSET = OFFSET + 4
1250 MODE% = 0 : PRINT "Restoring strings":GOSUB 1630
1260 '
1270 FOR X=14 TO 18:PRINT "line";X,A$(X):NEXT:PRINT
1280 FOR X=454 TO 458:PRINT "line";X,A$(X):NEXT:PRINT
1290 INPUT "pause...",X$:GOTO 250
1300 '
1310 '---(8) random access using the file created in example 1---
1320 OPEN "r",#3,"temp":PRINT:PRINT "last line in the file is" LOF(3)/16-1
1330 CLOSE:ERASE A:DIM A(3):' 4 columns
1340 SEGMENT% = VARPTR(A(0),1):OFFSET = 0
1350 LENGTH = 4 * 4 : '4 col * 4 bytes
1360 INPUT "What line do you want to edit ( CR to quit) ";LN$
1370 IF LN$ = "" THEN 250 ELSE LN = VAL(LN$)
1380 '
1390 'get temp:a(line,0) to temp:a(line,3) into a(0) to a(3):
1400 FILE$ = "temp" : MODE% = 0:'read
1410 FILE.ADDR = LN * 4 * 4 : GOSUB 1630:'line * 4 columns * 4 bytes per #: note
    that the file is set up for a(line,3), not a(3)
1420 IF CODE%=0 AND RESULT%=0 THEN 1450:'if file.addr > lof the read will get
    no bytes [code & result = 0] but the write will append the file.
1430 '
1440 PRINT "current values are: ":FOR X=0 TO 3:PRINT "column";X,A(X):NEXT:PRINT
1450 PRINT "Input 4 new values: ":FOR X=0 TO 3:PRINT "column";X:INPUT X$:
    IF X$<>" " THEN A(X) = VAL(X$):NEXT:ELSE NEXT
1460 MODE% = 1:GOSUB 1630:GOTO 1360 :'mode 1=write
1470 '
1480 '-----
1490 '

```

Listing 3: BLOAD2.BIN

```

1500 '
1510 '
1520 '---define variables and constraints---
1530 ' result% - no. of bytes transferred to or from the file
1540 ' code% - error number. Some errors are deduced from result%
1550 ' segment%,offset% - address in ram. Offset + file.addr cannot exceed 65535
1560 ' file.addr - address in the file.
1570 ' length - number of bytes to read or write. Max 65535
1580 ' pointers - file is read/written starting at the byte determined by
    pointer.msb * 65536 + pointer.lsb. Max 1 megabyte or capacity of disc
1590 ' mode% - 0/open the file to read 1/open the file to write
    2/create the file, open to write, set the file pointer
    to 0 and, if the file already exists, truncate it to 0
1600 ' seg1% - BASIC's seg(1), in case the file$ is not yet moved to seg(2)
1610 ' file$ - filename can include drive and path, max 63 characters. May
    start with a number. Names longer than 8 char are truncated (i.e.
    filename 123456789.12345 becomes 12345678.123)
1620 '

```


A-OK Computers

The A-OK Board™—The Ultimate Upgrade™ "10 MHz + 960K"

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TP•Linker for Turbo Pascal 2.0 and 3.0	\$69
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----------	------

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TurboDrive550 turns your unused RAM into a disk drive. TurboDrive550 is very fast.

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- Accesses disk 75,000 times faster than hard disk.
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TurboDrive550 is a low-cost alternative to a second disk drive.

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DSQD Kit \$355

DSDD Kit™

Upgrade to 400K per drive—same as DSQD Kit but with 2 TEAC 54B drives and A-OK DOS-2.

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VidSwitch550™

Just push a button on the left front side of your Sanyo and you've switched from the Sanyo graphics port to the Video Board port. Another push of the button on this small box switches it back. The monochrome version requires only the mono cable you already have. The color version requires no extra cables. Everything just plugs in.

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```

1630 'sub: ----BLOAD2----
1640 CODE%=0:RESULT%=0:FILE$=FILE$+CHR$(0): 'initialize
1650 IF LENGTH>32767 THEN LENGTH = LENGTH - 65536!:'convert to unsigned integer
1660 LN% = LENGTH
1670 IF OFFSET>32767 THEN OFFSET = OFFSET - 65536!
1680 OFFSET% = OFFSET
1690 PTR.MSB = 0 : PTR.LSB = FILE.ADDR:'lsb is least significant bytes
1700 IF PTR.LSB>65535! THEN PTR.MSB=PTR.MSB+1:PTR.LSB=PTR.LSB-65536!:GOTO 1700
1710 'now ptr.msb * 65536 + ptr.lsb = file.addr
1720 IF PTR.LSB > 32767 THEN PTR.LSB = PTR.LSB - 65536!
1730 POINTER.LSB% = PTR.LSB
1740 IF PTR.MSB > 32767 THEN PTR.MSB = PTR.LSB - 65536!
1750 POINTER.MSB% = PTR.MSB
1760 CALL 0,RESULT%,CODE%,OFFSET%,SEGMENT%,LN%,POINTER.LSB%,POINTER.MSB%,
    MODE%,SEG1%,FILE$
1770 '
1780 '---check for errors---
1790 RESULT=RESULT%:IF RESULT<0 THEN RESULT = RESULT + 65536!
1800 IF LENGTH < 0 THEN LENGTH = LENGTH + 65536!
1810 PRINT:PRINT "bytes requested ";LENGTH;
1820 IF MODE%=0 THEN PRINT " bytes read" RESULT ELSE PRINT " bytes written"
    RESULT
1830 PRINT "error code" CODE%;
1840 IF CODE%=0 THEN PRINT " no error"
1850 IF CODE%=2 THEN PRINT " file not found"
1860 IF CODE%=3 THEN PRINT " file or path not found"
1870 IF CODE%=4 THEN PRINT " too many files open"
1880 IF CODE%=5 THEN PRINT " access denied"
1890 IF CODE%=15 THEN PRINT " invalid drive specification"
1900 IF CODE%=19 THEN PRINT " pointer not set to specified address"
1910 PRINT
1920 IF MODE%=0 AND CODE%=0 AND RESULT<LENGTH AND LENGTH<>0 THEN PRINT
    "end of file reached"
1930 IF MODE%>0 AND CODE%=0 AND RESULT=0 AND LENGTH<>0 THEN PRINT
    "insufficient space on the disk"
1940 'many errors in the basic listing will cause these last two errors,
    such as leaving the % off of a variable like LN%
1950 RETURN

```

Listing 4: BLOAD1.ASM

```

code      segment;define code segment
main procfar;main part of program
assume cs:code
org 100h
start:;starting execution address
;-----
    jmp program
    nop
    result      db      0,0
    filename     db      'BSAVE.BIN',0,0,0,0,0
    terminator   db      0

program:
push cs;data is in the
pop ds; code segment
mov dx,6;address of 'filename'
mov al,0;read mode
mov ah,3;open a file
int 21h;handle returned in ax
jc done ;carry set if error

push ds ;save ds

```

```

mov ax,bx;mov the file handle
mov dx,cs;seg for file buffer
add dx,5; is cs + 5
mov ds,dx;put seg in ds
mov dx,0;offset is 0
    mov cx,100h;length of the file
mov ah,3fh ;read cx bytes
int 21h; into ds:dx
pop ds;restore ds

push ax ;no. bytes read is
mov ah,3eh; returned in ax
int 21h;close the file
pop ax;restore ax

done: mov bx,4;address for 'result'
mov [bx],ax;error code ret in ax
ret;far return

;-----
main endp ;end of program
code ends;end of code segment
endstart;end assembly

```


A-OK Computers

The Center of Creation and Dissemination of Sanyo PC Software and Hardware

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"Upgrade your MS-DOS 1.25 or 2.11 and Video Board"

All members of the A-OK DOS family add these features to your MS-DOS 1.25 or 2.11:

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- **A-OK DOS** now includes free high-quality ramdisk software—**TurboDrive550** (a \$33 value).
- Still the only text dump for 2.11 automatically transferred via **FORMAT /S**.
- Prints a screenful of text to any Sanyo-compatible printer.
- Interactive mode
 - It works with one keystroke in DOS, BASIC and all other software packages that run on the Sanyo.
 - Does not interfere with program execution or affect the data.
- Batch mode
 - Can be activated in BASIC by a one-line command.
 - Interrupt-driven and can be called from programming languages.
- Supports the only graphics screen dump software built into DOS—**PrintScreen550**.
- Includes a special "Sorted Directory" utility.
- Has a utility to strip the high-order bit off WordStar document files.
- User-controlled scrolling in all subsystems, not just DOS.
- **A-OK DOS** system messages are easier to understand.
- Supports up to 4 disk drives.

A-OK DOS versions for MS-DOS 1.25 correct flaws in MS-DOS 1.25 without sacrificing its strengths.

- All **A-OK DOS/1.25** are much faster and use far less memory than any version of MS-DOS 2.11.
- Runs all software that comes with the Sanyo.

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A-OK has tailored different versions of its DOS for varying disk drive configurations. This makes our ad more complex, but our DOS more efficient and easier for you to use.

A-OK DOS-1™

"Not just another Double-Sided DOS"

- Any combination of up to four single and double-sided drives.
- Double-sided drives support single and double-sided diskettes.
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 - 400K per double-sided diskette on DSDD drives
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 - uses ordinary diskettes
 - pays for itself in saved diskettes.

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 - reads and writes all formats read by 1.25 and 2.11
 - reads, writes, and formats 200K SSDD diskettes
 - reads, writes and formats 400K DSDD diskettes
 - on quad-density drives:
 - reads, writes, and formats 730K and 800K on ordinary diskettes.

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- All the features of **A-OK DOS-2**
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 - quad drives read all diskettes written by MS-DOS 1.25 and 2.11
 - quad drives read, write and format 160K, 180K, 200K, 320K, 360K, 400K, 730K, 800K formats on ordinary diskettes.
 - will not run Prolok™ disks.

We at A-OK Computers thank you for making **A-OK DOS-4™** the standard DOS for quad-density drives on the Sanyo. Thousands of copies of **DOS-4™** are now in use in the most demanding applications—yours. Potential bugs have been identified and corrected, making **DOS-4** a mature, well seasoned tool. Your constant feedback has resulted in the successive refinement of our documentation. After thorough testing and comparison to would-be competitors, Scottsdale Systems, America's No. 1 seller of Sanyos, selected **DOS-4** as the standard DOS supplied with their Silver Fox™. (**HAGEN-DOS™** is **A-OK DOS-4**). And of course, Midwest Micro Peripherals—one of America's largest sellers of computer equipment has selected **A-OK DOS-4** for their quad-based Sanyo. Because **DOS-4** is now the standard, our 720K and 800K formats are also regarded as the standard. Of the quad-density operating systems, only **A-OK DOS-4** supports the very popular **PrintScreen550**. *Soft Sector* sums it up well in their September 1984 review entitled "A-OK DOS and **PrintScreen550**—An Unbeatable Combination".

A-OK DOS-4 is the choice of OEMs. Don't trust your work to an experimental DOS, be sure your operating system is A-OK.

Look for these features in a quad-density drive DOS:

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6. FORMATS, READS, WRITES, and DISKCOPYs all MS-DOS standard formats employed by the Sanyo 550 Series.
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8. Built-in text screen to printer dump.
9. Supports the only graphics screen dump software built into the DOS—**PrintScreen550**.

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- **PrintScreen550** is designed for the everyday needs of most users.
- **PrintScreen550** capabilities
 - Prints a screenful of graphics to most popular printers.
 - This prints everything on the screen whether it's graphics or text.
 - User has the option to rotate the image on the paper. This permits Okidata 92s and other printers with less than 640 horizontal dot positions to print out the full screen.
 - Turns your Sanyo into a high-resolution graphics machine.
 - Multiscreen facility permits a printed image to be 640 dots by an almost unlimited number of dots in the perpendicular direction.
- **PrintScreen550** is flexible and easy to use.
 - Interactive mode
 - Works like the "Print Screen" button on the IBM-PC.
 - One keystroke does it all. No need to embed commands in BASIC. No extra programs to execute. Same single keystroke works in DOS, BASIC and all other software packages that run on the Sanyo.
 - Batch mode can be activated in BASIC by a one-line command.
- **PrintScreen550** is very fast and a lot of fun!

A-OK's PrintScreen550 software pulls the Print Screen button off the IBM-PC and puts it on your Sanyo MBC-550 Series computer.

PrintScreen550 is an option to any A-OK DOS for a meager \$24

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Submitting Material

Contributions to **SOFT SECTOR** are welcome from everyone. We like to run a variety of programs that are useful/helpful/fun for other Sanyo owners.

• **FORMAT:** Unless the program accompanying your submission is less than 10 lines, we must have the program itself on disk. We will print out the listing to our specifications. We simply cannot take the time to key in (and debug our typing errors) material that is longer. Editorial copy can also be included on disk, using any of the word processors currently available for the Sanyo 550, 555, 675, 775, 885 or 995 series. However, please also include a double-spaced hard copy of your editorial material and hard copy of your program listing. Please do not send text in all capital letters; use upper- and lowercase. While it is a big help to us in typesetting to receive your article saved on disk using the ASCII option, it is not mandatory. But we must have, at the very least, a double-spaced hard copy of the article.



• **WHAT TO WRITE:** Anything with a practical application. If it interests you, it will probably interest a lot of others. However, we prefer articles with accompanying programs that can be entered and run. We can prepare finished tables, diagrams and schematics from your rough draft *if* you provide legible copy and full directions. We have a continuing need for short articles with short listings.

We do pay for submissions, based on a number of criteria. Those wishing remuneration should *so state* when making submissions.

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Please do not submit programs or articles currently submitted to another publication.

Listing 5: BLOAD2.ASM

```
code segment;define code segment
main proc far
assume cs:code
org 100h
;convert the variables on the stack to 4 byte
result      equ dword ptr [bp + 40]
error_code  equ dword ptr [bp + 36]
buffer_offset equ dword ptr [bp + 32]
buffer_segment equ dword ptr [bp + 28]
len         equ dword ptr [bp + 24]
ptr_lsb     equ dword ptr [bp + 20]
ptr_msb     equ dword ptr [bp + 16]
mode        equ dword ptr [bp + 12]
Seg1        equ dword ptr [bp + 8]
filename    equ dword ptr [bp + 4]
;-----
start:
get_filename:;DS:DX points to the file name
mov bp,sp
lds bx,filename ;addr of file$
mov ax,[bx];al=length of file$,ah=segment
mov dx,[bx + 2];offset
cmp ah,0;0 if in segment(2)
je get_mode;1 if in segment(1)
lds bx,seg1 ;addr of seg1
mov bx,[bx]
mov ds,bx;put seg(1) into ds
get_mode:      ;read=0,write=1,create=2
lds bx,mode
mov bx,[bx]
push bx      ;save for 'read_or_write'
cmp bx,0;mode=2, then create a file
je read
cmp bx,1
je write
cmp bx,2
je create
jmp done;should never come here
create:;create a new file or truncate an existing file
mov cx,0;attribute for normal read/write file
mov ah,3ch;create and open a file
int 21h;handle ret in ax
jc error;carry bit set if error
mov bx,ax      ;move file handle
jmp get_len;skip set_pointer

write: mov al,1;open a file to write
jmp open

read:mov al,0;mode=0, open a file to read

open:mov ah,3dh
int 21h
jc error

set_pointer:
push ax;save file handle
lds bx,ptr_msb ;      if the pointer in cx:dx extends past the
mov cx,[bx];msb      end of the file and mode is write, the
lds bx,ptr_lsb;      file will be appended
mov dx,[bx];lsb
pop bx ;handle
```



```

mov al,0;use absolute addressing mode
push dx;save to test results
mov ah,42h;
int 21h;pointer actually set returned in DX:AX

cmp cx,dx;this error should never happen. If the
jne pointer_error
pop dx;pointer address is invalid,it should result
cmp ax,dx;in code% 0 (no error) and 0 bytes moved.
jne pointer_error
jmp get_len

pointer_error:
mov ax,13h ;error code 19
lds bx,error_code
mov [bx],ax
jmp close

get_len:
push bx;save the file handle
lds bx,len ;put number ofbytes to read or write
mov cx,[bx]; into cx

get_address:
lds bx,buffer_segment;file buffer address goes into DS:AX
mov ax,[bx] ;segment
lds bx,buffer_offset
mov dx,[bx] ;offset
mov ds,ax

read_or_write:
pop bx;file handle
pop ax;mode [pushed in 'get_mode']
cmp ax,0;0/read 1/write 2/write
jne write_bytes

read_bytes:
mov ah,3fh
jmp doscall

write_bytes:
mov ah,40h

doscall:
int 21h;bytes actually r/w are returned in ax
push bx;save handle
lds bx,result ;# of bytes read or written
mov [bx],ax; are passed to basic in 'result%'
pop bx;handle

close:mov ah,3eh;handle should still be in bx
int 21h
jmp done

error:pop bx;dump mode pushed in 'get_mode' to restore stack
lds bx,error_code
mov [bx],ax;passed to basic in 'code%'
done:ret 28h;far return, pop 40 bytes

;-----
main endp
code ends;end of code segment
endstart;end assembly

```



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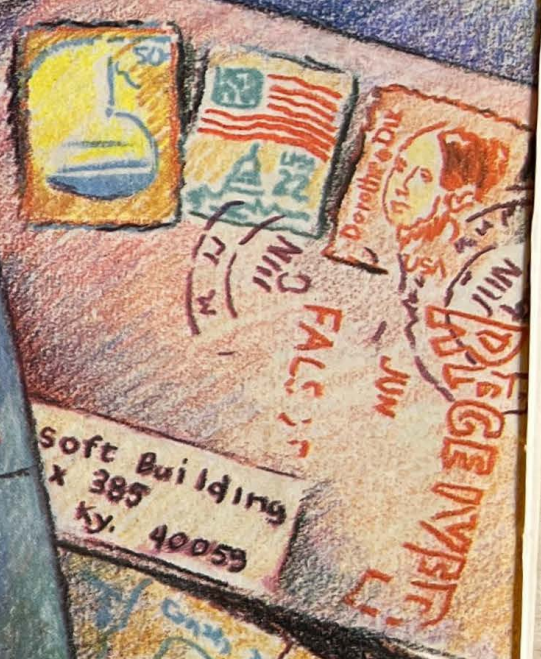
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Mailing List

Requires 256K

By **Ciro R. Camacho**

Going through a complicated database just to print a few labels or to keep a telephone list doesn't make sense. Here is a simple program that I hope will help make the task more enjoyable.

I originally wrote this program for the Texas Instruments 99/4A; now you can enjoy it on your Sanyo. I made a few changes from the original version and added the telephone dialer which comes in handy — especially with long distance services or telephone credit cards.

Before you start typing the program, I would suggest you have ready the local access number for your long distance service and your identification number, or your telephone credit card, plus your area code. All this information must be input on Line 30 variables as follows: AREA\$=Area Code; ACCESS\$=Local access number for long distance service; ID\$=Your personal identification number for long distance service; and ID1\$ which is optional in case you need additional digits after the telephone number (i.e., Access Number + ID + Area Code + Phone Number + ID1).

The program is menu driven and easy to run. After the presentation, you will have the option screen from which you may choose the desired function to be executed. If you are running the program for the first time, choose Option 4 to "Add a Name," and go through the questionnaire (you may enter up to 200 names).

If you already have a file, choose Option 1. The default name for the data file is B:MAILING.FIL. Unless you desire to change the filename or the default drive, press ENTER. Otherwise, type in the destination drive plus the filename. Your data will be loaded and you will be ready to begin.

Option 2 shows the index of all the names in your mailing list. It should be in alphabetical order if the file was previously sorted, showing the last name first followed by the first name and middle initial.

Ciro Camacho is a senior field engineer for Recognition Equipment, Inc. He enjoys programming in BASIC and assembly language and likes to build electronic projects. He may be contacted at 3917 Mandarin Woods Drive S., Jacksonville, Fla. 32217; (904) 262-9362 or (904) 733-8703.

Option 3 shows a listing of the names in the file, plus all the related information (address, residence phone and business phone).

If you are looking for a specific name, choose Option 5, input the last name of the person and you will get all the related information.

One nice thing here is the option to dial the telephone numbers. If you choose to do so, you may dial the residence or the business telephone number with or without long distance service.

You must have a Hayes or Hayes-compatible modem on and ready to go in order for the dialer to work.

If your Hayes does not support the W command, change lines 2120 and 2150 to (,,,) to give the modem enough time to wait for the second dial tone. Also, do not include variables ID1\$ if you don't need them. If you are using a telephone credit card, change these lines to:

```
PRINT%1,"ATDT";"0";D$(I)
      or
H$(I);",,,"ID$-Credit Card #"
```

Where: D\$(I) = Residence number
H\$(I) = Business number

After the modem has dialed the number, you will see "Press Any Key to Hang up." Pick up your telephone and press any key to disconnect the modem from the line and you are ready to talk. Line 1000 initializes the RS-232 port to 300 Baud rate, one stop bit, 8 bit word, no parity.

At this point, you also have the option to print labels from this screen or you can go to Option 0 for label printing.

Option 6 deletes the name, address and telephone numbers. Be careful with this option, you cannot recover the data once it is gone.

Option 7 edits only one field at a time. Let's say that Aunt Mary moves: Input her last name and go through the steps of the program. If her name remains the same, press ENTER and that field will not be changed (first and last names are two separate fields). When the address is shown, type in the new address and continue until each field is viewed and edited.

Option 8 is "Saving Data." One word of caution: Always save your data after a change has been made, after you sort or after you add a name. It is good practice to do so in order to keep your file updated

at all times. This option also defaults to B:MAILING.FIL.

Option 9 is "Sort Data," and as it implies, your entire file is sorted in alphabetical order. I must admit that this is not the fastest way to sort, but it will do the job right.

Option 0 is "Labels." As discussed earlier, this is just a loop back to Option 5. I would experiment with this part before actually printing labels. We know that there is no standard size for labels, so you may have to customize the program for your labels. Line 1930 will print the first and last names in emphasized mode, that is the code for the Gemini 10X or the Epson. For other printers refer to your operators manual. Line 1960 will space between labels. I use line feeds (CHR\$(10)) to accomplish an even spacing. Change the number of CHR\$(10) you may need; it all depends on the type and size of labels you are using.

I hope this program helps, especially when you have to dial those long numbers, make labels or just keep your mailing list. If anyone has any ideas or suggestions to improve this program, please let me know. Have fun!

The listing: MAILING.BAS

```
10 'telephone directory, dialer & mailing list by Ciro R. Camacho
20 D=0:LOCATE 1,1,0:DIM A(4554)
30 CLS:AREA$="xxx":ACCESS$="xxxxxxx":ID$="xxxxxxx":ID1$="xx"
40 DIM Z$(14),B$(200),C$(200),D$(200),E$(200),F$(200),G$(200),H$(200)
50 'PRESENTATION
60 Y$="*** MAILING LIST ***"
70 A$="CIRO R. CAMACHO"
80 SYMBOL(140,50),Y$,2,2,6,0
90 SYMBOL(300,70),"BY",2,2,6,0
100 SYMBOL(200,90),A$,2,2,3,0
110 SYMBOL(180,120),"(c) Copyright 1986",2,2,5,0
120 FOR I=1 TO 400:NEXT I:CLS
130 COLOR 2,0:FOR I=1 TO 14:READ Z$(I):NEXT I
140 'DISPLAY OPTION SCREEN
150 LOCATE 1,1,0
160 VIEW(0,0)-(639,199),0,0
170 CLS:SYMBOL(140,10),Y$,2,2,5,0
180 SYMBOL(220,30),Z$(13),2,2,5,0
190 I=0
200 FOR II=50 TO 130 STEP 20:I=I+1:SYMBOL(50,II),Z$(I),2,2,4,0:SYMBOL(350,II),Z$(I+5),2,2,4,0:NEXT II
205 SYMBOL(160,157),Z$(11),2,2,4,0
210 SYMBOL(50,177),Z$(14),2,2,6,0
220 LOCATE 5,6,0:PRINT DATES
230 LOCATE 5,66,0:PRINT TIMES:K$=INKEY$:IF K$="" THEN 230
240 IF K$>"9" OR K$<"0" THEN 230
250 ON INSTR("1234567890",K$) GOSUB 300,450,510,660,800,1080,1250,1500,1640,1870
260 GOTO 150
270 DATA 1-READ FILE,2-LOOK INDEX,3-LOOK LIST,4-ADD NAME,5-LOOK NAME,6-DELETE NAME,7-CHANGE DATA,8-SAVE DATA
280 DATA 9-SORT DATA,0-LABELS,PRESS BREAK TO END,PRESS ANY KEY TO CONTINUE...,OPTIONS ARE.-,Please enter your choice....
290 'read file
300 GET(47,47)-(300,65),A:CLS
310 PUT(230,10),A,OR:ON ERROR GOTO 430
```

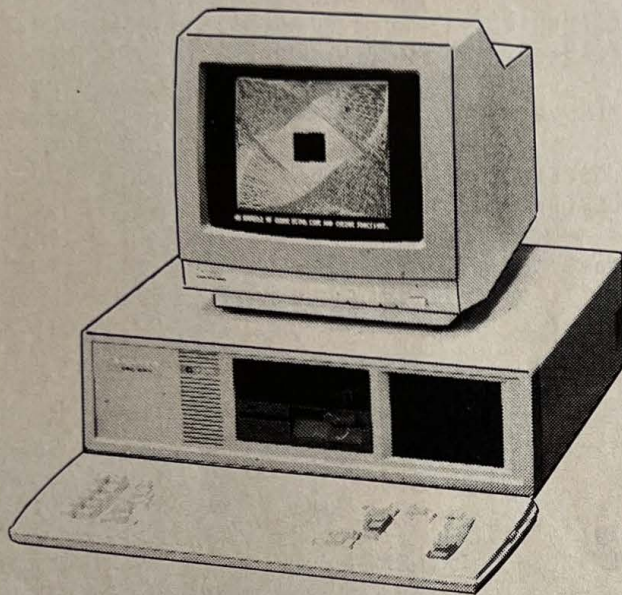


```

320 LOCATE 10,10,0:PRINT"DRIVE & FILE NAME PLEASE"
330 LOCATE 12,10,0:PRINT"<DEFAULT>      B:MAILING.FIL"
340 LOCATE 12,20,1:INPUT;N$:IF N$="" THEN N$="B:MAILING.FIL"
350 SYMBOL(180,177),"LOADING DATA STAND-BY",2,2,6,0
360 OPEN "I",#1,N$
370 INPUT# 1,D
380 FOR I=1 TO D
390 INPUT #1,F$(I),B$(I),C$(I),G$(I),D$(I),H$(I),E$(I)
400 IF I=D THEN 420 ELSE NEXT I
410 IF EOF(1) THEN 420
420 CLOSE:RETURN
430 LOCATE 16,30,0:PRINT"FILE NOT FOUND.....":FOR T=1 TO 150:NEXT T:RETURN
440 'look index
450 GET(47,67)-(300,87),A:CLS
460 PUT(220,10),A,OR
470 N=6:FOR I=1 TO D:LOCATE N,30,0
480 PRINT F$(I),B$(I):N=N+1:IF N=20 THEN GOSUB 610
490 NEXT I:GOSUB 610
500 RETURN
510 'look list
520 GET(47,87)-(300,107),A:CLS
530 PUT (220,10),A,OR
540 N=0:T=0
550 FOR I= 1 TO D:N=N+6:T=T+1
560 IF T=4 THEN GOSUB 610
570 LOCATE N,1,0:PRINT B$(I);" ";F$(I);TAB(40)"Residence: ";D$(I)
580 PRINT C$(I);TAB(40)"Business: ";H$(I)
590 PRINT G$(I)
600 NEXT I
610 SYMBOL (130,185),Z$(12),2,2,6
620 IF INKEY$="" THEN 620 ELSE N=6:T=1:GOSUB 640
630 RETURN
640 WINDOW(0,0)-(599,199)
650 VIEW(0,40)-(639,199),0,0:RETURN
660 'add name
670 GET(47,107)-(300,127),A:CLS
680 A=D+1:FOR I=A TO 200:LOCATE 6,30,0:PRINT"-----DATA PLEASE-----"
690 PUT(230,10),A,OR:LOCATE 9,17,1:PRINT "Entry #: ";I:PRINT
700 LINE INPUT"*FIRST NAME & INITIAL:      ",B$(I)
710 LINE INPUT"*LAST NAME:                  ",F$(I)
720 LINE INPUT"*ADDRESS:                    ",C$(I)
730 LINE INPUT"*CITY, STATE & ZIP-CODE:     ",G$(I)
740 LINE INPUT"*Residence Phone:           ",D$(I)
750 LINE INPUT"*Business Phone:            ",H$(I)
760 D=D+1
770 LOCATE 18,10,1:INPUT"Do you wish to add more names [Y/N] ? ",K$
780 IF K$="Y" OR K$="y" THEN 790 ELSE RETURN
790 CLS:NEXT I:GOTO 680
800 'look for name
810 GET (47,127)-(300,147),A
820 CLS:PUT (220,10),A,OR
830 LOCATE 6,10,1:INPUT;"Last Name: ";I$
840 FOR I=1 TO D:IF F$(I) <> I$ THEN 1060
850 LOCATE 8,10,0:PRINT"Is the person: ";B$(I);" ";F$(I)
860 LOCATE 8,60,1:INPUT(1);"(Y/N) ";K$:LOCATE 8,60,0:PRINT"
870 IF K$="Y" OR K$="y" THEN 880 ELSE 1060
880 LOCATE 6,10,0:PRINT"
890 LOCATE 8,10,0:PRINT"
900 LOCATE 9,25,0:PRINT C$(I)
910 LOCATE 10,25,0:PRINT G$(I)
920 LOCATE 12,25,0:PRINT "Residence: ";D$(I)
930 LOCATE 13,25,0:PRINT "Business: ";H$(I)
940 LOCATE 15,5,1:INPUT;"Dial a telephone number?... (Y/N) ";K$
950 IF K$="N" OR K$="n" THEN 1020
960 LOCATE 17,10,0:PRINT "1- To Dial Residence          2- To Dial Busines
s"

```


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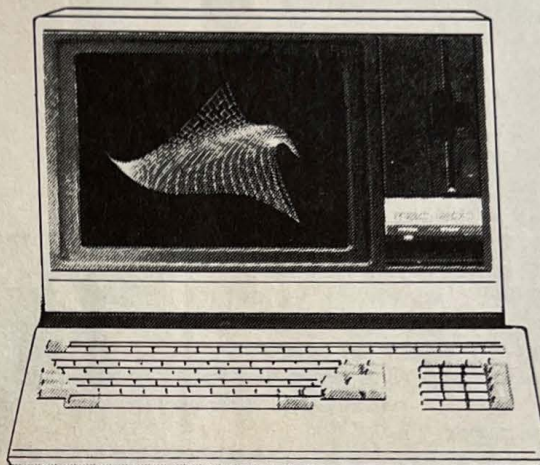
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970 LOCATE 19,10,0:PRINT "3- To Dial Residence w/L.D.S.

4- To Dial Business

s w/L.D.S"

980 K\$=INKEY\$:IF K\$="" THEN 980

990 IF K\$>"4" OR K\$<"1" THEN 980

1000 INIT%1,&H6F,3

1010 ON INSTR("1234",K\$) GOSUB 2010,2060,2110,2140

1020 LOCATE 23,5,1:INPUT(1);"PRINT LABELS?... (Y/N) ";K\$

1030 IF K\$="Y" OR K\$="y" THEN GOSUB 1910

1040 LOCATE 24,5,1:INPUT(1);"LOOK FOR ANOTHER NAME?... (Y/N) ";K\$

1050 IF K\$="Y" OR K\$="y" THEN 820 ELSE 1070

1060 LOCATE 8,25,0:PRINT " ":NEXT I

1070 RETURN

1080 'delete name

1090 GET(327,47)-(600,67),A

1100 CLS:PUT (190,10),A,OR

1110 LOCATE 10,10,1:INPUT;"Last Name: ";I\$

1120 FOR I=1 TO D:IF F\$(I)<>I\$ THEN 1230

1130 LOCATE 12,10,0:PRINT"Is the person: ";B\$(I);" ";F\$(I)

1140 LOCATE 12,60,1:INPUT(1);"(Y/N) ";K\$:LOCATE 12,60,0:PRINT " "

1150 IF K\$="Y" OR K\$="y" THEN 1160 ELSE 1230

1160 LOCATE 16,20,0:PRINT"..... Working Please Wait"

1170 O=I:FOR P=0 TO D

1180 F\$(P)=F\$(P+1):B\$(P)=B\$(P+1):F\$(P)=F\$(P+1):H\$(P)=H\$(P+1)

1190 C\$(P)=C\$(P+1):G\$(P)=G\$(P+1):D\$(P)=D\$(P+1):E\$(P)=E\$(P+1)

1200 NEXT P:D=D-1

1210 LOCATE 24,5,1:INPUT(1);"Done...., More Deletions?... (Y/N) ";K\$

1220 IF K\$="Y" OR K\$="y" THEN 1100 ELSE 1240

1230 LOCATE 12,25,0:PRINT " ":NEXT I

1240 RETURN

1250 'change data

1260 GET(327,67)-(600,87),A

1270 CLS:PUT (190,10),A,OR

1280 LOCATE 10,10,1:INPUT;"Last Name: ";I\$

1290 FOR I=1 TO D:IF F\$(I)<>I\$ THEN 1480

1300 LOCATE 12,10,0:PRINT"Is the Person: ";B\$(I);" ";F\$(I)

1310 LOCATE 12,60,1:INPUT(1);"(Y/N) ";K\$:LOCATE 12,60,0:PRINT " "

1320 IF K\$="Y" OR K\$="y" THEN 1330 ELSE 1480

1330 LOCATE 22,25,1:PRINT"PRESS ENTER IF NOT CHANGE"

1340 LOCATE 14,10,1:PRINT "First name & initial: ";B\$(I):LOCATE 14,34,1:LINE I
NPUT CH\$

1350 IF CH\$="" THEN 1360 ELSE SWAP CH\$,B\$(I)

1360 LOCATE 15,10,1:PRINT "Last name: ";F\$(I):LOCATE 15,34,1:LINE I
NPUT CH1\$

1370 IF CH1\$="" THEN 1380 ELSE SWAP CH1\$,F\$(I)

1380 LOCATE 16,10,1:PRINT "Address: ";C\$(I):LOCATE 16,34,1:LINE I
NPUT CH2\$

1390 IF CH2\$="" THEN 1400 ELSE SWAP CH2\$,C\$(I)

1400 LOCATE 17,10,1:PRINT "City, State & Zip-Code: ";G\$(I):LOCATE 17,34,1:LINE I
NPUT CH3\$

1410 IF CH3\$="" THEN 1420 ELSE SWAP CH3\$,G\$(I)

1420 LOCATE 18,10,1:PRINT "Residence Phone: ";D\$(I):LOCATE 18,34,1:LINE I
NPUT CH4\$

1430 IF CH4\$="" THEN 1440 ELSE SWAP CH4\$,D\$(I)

1440 LOCATE 19,10,1:PRINT "Business Phone: ";H\$(I):LOCATE 19,34,1:LINE I
NPUT CH5\$

1450 IF CH5\$="" THEN 1460 ELSE SWAP CH5\$,H\$(I)

1460 LOCATE 24,5,1:INPUT(1);"Do you wish to make more changes?... (Y/N) ";K\$

1470 IF K\$="Y" OR K\$="y" THEN 1270 ELSE 1490

1480 LOCATE 12,25,0:PRINT " "

1490 RETURN ":NEXT I

1500 'save data

1510 GET(327,87)-(600,107),A:CLS

1520 PUT (200,10),A,OR

1530 IF D=0 THEN 430:ON ERROR GOTO 430

1540 LOCATE 10,10,0:PRINT"DRIVE & FILE NAME PLEASE"


```

1550 LOCATE 12,10,0:PRINT"<DEFAULT>      B:MAILING.FIL"
1560 LOCATE 12,21,1:INPUT;N$:IF N$="" THEN N$="B:MAILING.FIL"
1570 SYMBOL(180,177),"SAVING DATA STAND-BY",2,2,2,0
1580 OPEN "O",#1,N$
1590 WRITE #1,D
1600 FOR I=1 TO D
1610 WRITE #1,F$(I),B$(I),C$(I),G$(I),D$(I),H$(I),E$(I)
1620 IF I=D THEN 1630 ELSE NEXT I
1630 CLOSE :RETURN
1640 'sort data
1650 GET(327,107)-(600,127),A:CLS
1660 PUT (200,10),A,OR
1670 SYMBOL(140,75),"*DATA IS BEING SORTED*",2,2,4
1680 SYMBOL(140,105),"  PLEASE STAND-BY  ",2,2,4
1690 FOR P=1 TO D
1700 FOR C=1 TO D:F=LEN(F$(C))
1710 IF F$(C)=F$(C+1) THEN GOTO 1850
1720 IF MID$(F$(C),1,F)>MID$(F$(C+1),1,F) THEN GOSUB 1740:GOTO 1810
1730 IF MID$(F$(C),1,F)<MID$(F$(C+1),1,F) THEN 1810
1740 SWAP F$(C),F$(C+1)
1750 SWAP B$(C),B$(C+1)
1760 SWAP C$(C),C$(C+1)
1770 SWAP G$(C),G$(C+1)
1780 SWAP D$(C),D$(C+1)
1790 SWAP E$(C),E$(C+1)
1800 SWAP H$(C),H$(C+1):RETURN
1810 IF C+1=D OR C=D THEN 1830
1820 NEXT C
1830 NEXT P
1840 RETURN
1850 IF MID$(B$(C),1,4)>MID$(B$(C+1),1,4) THEN GOSUB 1740:GOTO 1810
1860 IF MID$(B$(C),1,4)<MID$(B$(C+1),1,4) THEN 1810
1870 'labels
1880 GET(327,127)-(600,147),A
1890 CLS:PUT(230,10),A,OR
1900 GOTO 830
1910 LOCATE 23,40,1:INPUT"How many labels?..";N
1920 FOR II=1 TO N
1930 LPRINT CHR$(27);"E";B$(I);" ";F$(I);CHR$(27);"F"
1940 LPRINT C$(I)
1950 LPRINT G$(I)
1960 LPRINT CHR$(10);CHR$(10);CHR$(10);CHR$(10);CHR$(10)
1970 NEXT II
1980 RETURN
1990 END
2000 'dialer
2010 'dial residence
2020 IF MID$(D$(I),1,3)<>AREA$ THEN 2040
2030 PRINT#1,"ATDT";MID$(D$(I),5):GOTO 2050
2040 PRINT#1,"ATDT";"1";D$(I)
2050 GOSUB 2160:RETURN
2060 'dial business
2070 IF MID$(H$(I),1,3)<>AREA$ THEN 2090
2080 PRINT#1,"ATDT";MID$(H$(I),5):GOTO 2050
2090 PRINT#1,"ATDT";"1";H$(I)
2100 GOSUB 2160:RETURN
2110 'dial residence with long distance service
2120 PRINT#1,"ATDT";ACCESS$;"W";ID$;D$(I);ID1$
2130 GOSUB 2160:RETURN
2140 'dial business with long distance service
2150 PRINT#1,"ATDT";ACCESS$;"W";ID$;H$(I);ID1$
2160 LOCATE 21,30,0:PRINT"Press Any Key to Hang-up"
2170 K$=INKEY$:IF K$="" THEN 2170 ELSE PRINT#1,"ATH"
2180 RETURN
2190 END

```




An educational tool designed
to teach your child valuable
math skills

RoboMath

By Leonard Hyre

Sanyo BASIC and GW-BASIC Listing

An educational program designed to keep a young child's interest, *RoboMath* helps teach addition and subtraction skills. By giving the child an exciting and challenging goal (the rescue of Robo the friendly robot), the correct answers take on a more important meaning in the student's mind. I have taken advantage of the computer's particular color and sound capabilities to give *RoboMath* arcade-like action. Versions are provided for both the Sanyo 550/555 and the Sanyo 665/775/880 series.

The scenario for *RoboMath* is simple. Robo is stranded on a strange and desolate planet. Naturally, we all wish to rescue him from his sad situation. His rescue ship must send down fuel for Robo to be able to blast off. A full tank is the minimum requirement.

The student's job is to provide the coordinates needed to properly fill the fuel tank. Answering the math problem correctly provides the rescue ship with the needed information. Unfortunately, an incorrect answer will cause the tank to be depleted one unit of fuel. Of course, filling the tank results in a "tractor beam" rescue and a blastoff by the spaceship.

Student options include addition and subtraction problems, and you can make changes in the problems to suit the level of skill of your would-be space engineer.

Leonard Hyre is the author of several programs that have appeared in previous issues of SOFT SECTOR. He is also the author of the SanyoPoly game available from Michigan Software. He may be contacted at P.O. Box 403, Cambridge, Md. 21613; (301) 228-0064.

Sanyo 550/555 Version

The first action performed is the drawing of the play screen. Use of the powerful SYMBOL command and the outstanding 555 graphics capabilities make the creation of an attractive screen a snap.

The program utilizes lines 150 through 280 to set up three main parts of the screen. A desolate planet scene, with Robo awaiting the rescue by his friends in the flying saucer hovering in the star-studded sky, an input area to show problems and display answers and, of course, a fuel tank with cells to fill.

A menu is created using lines 310 through 330 from which the child can choose addition or subtraction as a means of rescuing Robo. The main body of the program is divided into two sections; one for addition and another for subtraction.

To adjust program difficulty levels for your child, you can make changes as follows.

Changing the difficulty level of addition problems can be done by changing the possible values of A and B in Line 380. Simply replace the '9' in each with smaller values to simplify the problems. For subtraction, the modification is needed in Line 520, changing 15 in the variable A to a lesser number.

The final program subsection has to do with the actual rescue. Robo is blasted into space with accompanying fanfare, much to the delight of young users. Lines 780 through 930 handle this portion of the program.

Sanyo 675/775/885 Version

For the Sanyo 675, 775 and 885, the program utilizes standard Microsoft BASIC to accomplish the task of saving Robo. Program play screen setup is handled in lines 650 through 950. This sets up boundaries, draws Robo and the

spaceship and presents an empty fuel tank. The DRAW command is used to create the letters 'R', 'O' and 'B' in the size and color we want. These are executed by lines 910 through 950 and might interest you as a method of creating alternate letters for your program needs.

Separate routines are provided for addition and subtraction routines. Each of these performs all necessary actions needed to select a problem, present it and control the answer for appropriate action. For example, in the addition routine (lines 280 through 350), the first action is to go to the subroutine at 1000, which clears the problem display area for the new problem. The numbers are selected and the problem is shown to the child.

If the answer is correct, a GOSUB to the "fill fuel cell routine" (lines 490 through 530) is made; otherwise, the answer must

be wrong — jump to the "drain fuel cell" section is made.

The subtraction routine is essentially set up the same way and now further discussion is needed here for you to be able to follow the program logic.

Only one major action remains — the rescue operation. The remaining program lines (lines 1000 through the END) control this activity. No user input is needed here since the child has already accomplished his part of the mission. A tractor beam is projected to the surface and Robo is pulled into the ship. Flames roar from the rocket engines as Robo is whisked away to safety.

I believe *RoboMath* will be a valuable addition to the software collection of those seeking educational programs for the younger set.

Listing 1: ROB0555.BAS

```

10 *****
20 '*          ROBOMATH          *
30 '*          by Leonard Hyre   *
40 '*
50 '*          For the SANYO 550/555
60 '*
70 '*          [C] 9/85          *
80 *****
90 '
100 'The VARIABLES A & B may be changed to meet the
110 'level of skill your child is now at.(380 & 520)
120 '
130 '*** DRAW SCREEN ***
140 '
150 COLOR 2,1:CLS
160 LINE (5,5)-(200,180),0,BF:LINE(8,7)-(197,178),6,B
170 LINE(570,5)-(624,180),7,BF:
180 LINE(240,50)-(530,150),6,BF:LINE(245,55)-(525,145),0,B
190 OV=230:DO=10:FOR TT=0 TO 4 STEP 4:SYMBOL(OV,DO),"ROBOMATH",5,3,TT:OV=OV+3:DO
=DO+3:NEXT
200 OV=575:DO=10:FOR EP=1 TO 11:LINE(OV,DO)-(OV+45,DO+15),0,B:DO=DO+15:NEXT
210 LINE(8,170)-(32,167),6:LINE-(60,170),6:LINE-(80,165),6:LINE-(110,165),6:LINE
-(135,169),6:LINE-(160,165),6:LINE-(198,167),6:PAINT(170,172),6,6
220 LOCATE 1,71:COLOR 7,0:PRINT"FULL POWER";LOCATE 24,72:COLOR 7,4:PRINT"DRAINE
D!";
230 COLOR 4,7:LOCATE 25,2,0:PRINT" ROBOMATH by L.Hyre -      'CAN YOU RESCUE THE
STRANDED ROBO THE ROBOT !'      ";
240 LINE(90,150)-(102,158),7,BF:CIRCLE(96,146),5,0,1,7:LINE(90,146)-(102,146),7
:PAINT(95,148),4,7:PAINT(95,144),7,7:LINE(87,150)-(105,152),7,BF:LINE(87,152)-(8
7,155),7:LINE(105,152)-(105,155),7:LINE(90,158)-(92,166),7,BF:LINE(100,158)-(102
,166),7,BF
250 LINE(96,142)-(90,136),7:LINE(96,142)-(102,136),7
260 COLOR 5,0:LOCATE 6,5:PRINT"*":LOCATE 4,18:PRINT"*":COLOR 1,0:LOCATE 9,9:PRIN
T"*";:COLOR 4,0:LOCATE 3,7:PRINT"*";:LOCATE 9,19:COLOR 6,0:PRINT"*";:LOCATE 11,6
:PRINT"*";:LOCATE 12,18:COLOR 3,0:PRINT"U";
270 CIRCLE(100,51),50,0,1,.15,7:PAINT(102,50),7,7:LOCATE 7,9:COLOR 4,7:PRINT"o o
o o o";:LOCATE 8,10:PRINT"_____";:LINE(100,44)-(95,35),7:LINE(100,44)-(105,35
),7
280 '
290 '*** THE MENU ***
300 '
310 LOCATE 9,41:COLOR 1,6:PRINT"* ROBOMATH MENU *";:LOCATE 10,37:COLOR 0:PRINT"H
ow Will You Rescue Him?";:LOCATE 11,37:PRINT STRING$(24,"_"):LOCATE 13,43:COLOR
4:PRINT"1> Add":LOCATE 15,43:PRINT"2> Subtract"
320 AK$=INKEY$:IF AK$=""THEN 320
330 IF AK$="1"THEN 370 ELSE 510
340 '
350 '*** ADDITION ***
360 '
370 GOSUB 730
380 A=INT(RND(1)*9)+1:B=INT(RND(1)*9)+1

```



```

390 SYMBOL(340,60),"ADDING",2,2,1:AD$=STR$(A)+" "+"STR$(B)+" ="
400 SYMBOL(280,80),AD$,3,2,4
410 LOCATE 17,12:COLOR 2,0:LINE INPUT (2) AN$
420 FOR UP=16 TO 9 STEP -1:LOCATE UP+1,12:PRINT" ";:FOR SN=1 TO 10:OUT &H38,75:
NEXT:LOCATE UP,12:PRINT AN$;:NEXT:LOCATE UP+1,12:PRINT" ";
430 IF VAL(AN$)>9 THEN OV=340:DN=110 ELSE OV=360:DN=110
440 SYMBOL(OV,DN),AN$,4,4,4
450 FOR DL=1 TO 1000:NEXT
460 IF A+B=VAL(AN$) THEN GOSUB 650 ELSE GOSUB 690
470 GOTO 370
480 '
490 '*** SUBTRACTION ***
500 '
510 GOSUB 730
520 A=INT(RND(1)*15)+1:B=INT(RND(1)*7)+1:IF B=>A THEN 520
530 SYMBOL(320,60),"SUBTRACT",2,2,1:SD$=STR$(A)+" "-"STR$(B)+" ="
540 SYMBOL(280,80),SD$,3,2,4
550 LOCATE 17,12:COLOR 2,0:LINE INPUT (2)AN$
560 FOR UP=16 TO 9 STEP -1:LOCATE UP+1,12:PRINT" ";:FOR SN=1 TO 10:OUT &H38,75:
NEXT:LOCATE UP,12:PRINT AN$;:NEXT:LOCATE UP+1,12:PRINT" ";
570 IF VAL(AN$)>9 THEN OV=340:DN=110 ELSE OV=360:DN=110
580 SYMBOL(OV,DN),AN$,4,4,4
590 FOR DL=1 TO 1000:NEXT
600 IF A-B=VAL(AN$) THEN GOSUB 650 ELSE GOSUB 690
610 GOTO 510
620 '
630 '*** FILL THE FUEL TANK ***
640 '
650 PAINT(585,DO-8),4,0:DO=DO-15:FOR SN=1 TO 4:OUT &H38,100:NEXT:IF DO<12 THEN 7
80 ELSE RETURN
660 '
670 '*** FUEL LEAK ***
680 '

```

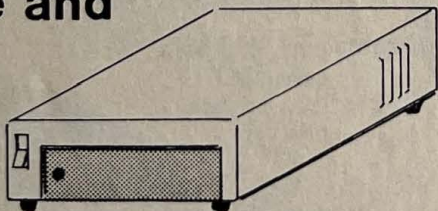
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```

690 IF DO<174 THEN DO=DO+15:PAINT(585,DO-8),7,0:BEEP:RETURN:ELSE BEEP:RETURN
700 '
710 '*** WIPE MATH SCREEN CLEAN ***
720 '
730 FOR WIPE=8 TO 18:LOCATE WIPE,33:COLOR,6:PRINT STRING$(32," ");:NEXT
740 RETURN
750 '
760 '*** BLAST OFF ROUTINE
770 '
780 GOSUB 730:SYMBOL(280,60),"COUNTDOWN",3,3,4
790 FOR CD=5 TO 1 STEP -1:CD$=STR$(CD):SYMBOL(350,110),CD$,4,4,4:FOR DL=1 TO 650:
NEXT:SYMBOL(350,110),CD$,4,4,6:OUT &H38,50:NEXT
800 FOR PW=1 TO 8:LOCATE 7,9:COLOR 1,7:PRINT"o o o o o";:OUT &H38,1:OUT &H38,75:
FOR DL=1 TO 100:NEXT:LOCATE 7,9:COLOR 4,7:PRINT"o o o o o";:OUT &H38,1:OUT &H38,
50:FOR DL=1 TO 100:NEXT:NEXT
810 FOR TRACTOR=9 TO 21:LOCATE TRACTOR,10:COLOR ,6:FOR DL=1 TO 20:NEXT:PRINT"
":OUT &H38,75:NEXT
820 FOR SN=1 TO 25:OUT &H38,75:NEXT
830 FOR TRACTOR=21 TO 9 STEP -1:LOCATE TRACTOR,10:COLOR ,0:PRINT" ":NEXT
840 LINE(75,65)-(100,165),4:LINE-(125,65),4:LINE-(75,65),4:PAINT(85,75),4,4
850 FOR SN=10 TO 55:OUT &H38,SN:FOR DL=1 TO 10:NEXT:NEXT
860 FOR DL=1 TO 700:NEXT:LINE(5,5)-(200,180),0,BF
870 SYMBOL(20,25),"He's Safe!",2,2,6
880 SYMBOL(60,60),"YOU",3,3,4
890 SYMBOL(50,110),"Did It!",2,2,7
900 COLOR 2,0:LOCATE 20,5:PRINT"Play again (Y/N)?"
910 AK$=INKEY$:IF AK$=""THEN 910
920 IF AK$="Y" OR AK$="y" THEN RUN ELSE END
930 END

```

Listing 2: ROB0885.BAS

```

10 '*****
20 '* *
30 '* ROBOMATH by L.Hyre *
40 '* *
50 '* [C] 2/86 Cambridge MD *
60 '* *
70 '* For: SANYO 665/775/885 *
80 '*****
90 '
100 GOSUB 650
110 '
120 '*** SET UP PROGRAM START ***
130 '
140 RANDOMIZE TIMER
150 DN=175:LOCATE 1,1,0
160 DEFINT A:DEFINT B
170 '
180 '*** MENU ***
190 '
200 LOCATE 6,20:PRINT"How do YOU":LOCATE 7,20:PRINT"choose to":LOCATE 8,20:PRIN
T"save ROBO?"
210 LOCATE 9,20:PRINT"1>Add":LOCATE 10,20:PRINT"2>Subtract"
220 CH$=INKEY$:IF CH$=""THEN 220
230 IF VAL(CH$)<1 OR VAL(CH$)>2 THEN 220
240 ON VAL(CH$) GOTO 280,390
250 '
260 '*** ADDITION ***
270 '
280 GOSUB 1000
290 A=INT(RND(1)*9)+1:B=INT(RND(1)*9)+1
300 LOCATE 6,20:PRINT"ADDING..."
310 LOCATE 8,19:PRINT A+"B"= "
320 LOCATE 9,20:PRINT"?":LINE INPUT AN$
330 GOSUB 1050
340 IF VAL(AN$)=A+B THEN GOSUB 490 ELSE GOSUB 540
350 GOTO 280
360 '

```



```

370 '*** SUBTRACTION ***
380 '
390 GOSUB 1000
400 A=INT(RND(1)*15)+1:B=INT(RND(1)*8)+1:IF B=>A THEN 400
410 LOCATE 6,20:PRINT"SUBTRACT..."
420 LOCATE 8,19:PRINT A"-B"= "
430 LOCATE 9,20:PRINT"?";:LINE INPUT AN$
440 GOSUB 1050
450 IF VAL(AN$)=A-B THEN GOSUB 490 ELSE GOSUB 540
460 GOTO 390
470 '*** FILL FUEL CELL ***
480 '
490 PAINT(310,DN),2,1
500 '
510 IF DN<=35 THEN 1120
520 DN=DN-20
530 RETURN
540 DN=DN+20:IF DN=>175 THEN DN=175
550 PAINT(310,DN),3,1
560 '
570 RETURN
580 '
590 '*** FUEL CELL DRAIN ***
600 '
620 '
630 '*** SET UP SCREEN ***
640 '
650 KEY OFF:LOCATE 1,1,0:SCREEN 1,0
660 COLOR ,1
670 CLS
680 LINE(3,5)-(319,199),2,B
690 LINE(7,9)-(120,190),1,B
700 LINE(130,9)-(255,100),2,B

```

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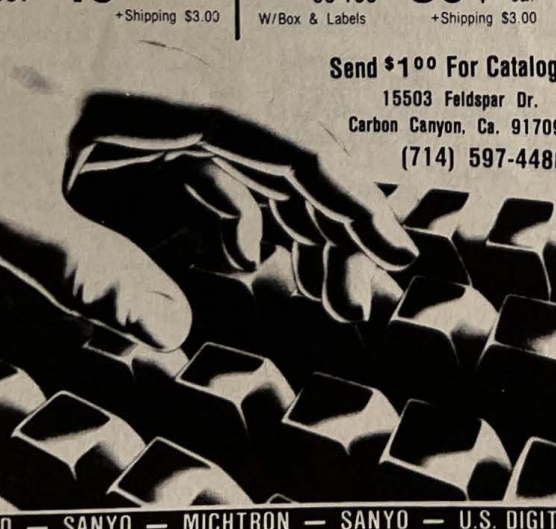
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10 PAINT(155,11),1,2
20 LINE(270,7)-(314,190),1,B:PAINT(290,12),3,1
30 FOR L=20 TO 180 STEP 20:LINE(270,L)-(314,L),1:NEXT L
40 GOSUB 1000
50 LOCATE 3,20:PRINT "ROBOMATH ";
60 LOCATE 2,35:PRINT "FULL!"
70 DRAW "BM7,180;C1E4R5F2R2E3R5F6E5R2F4E3R13F2E8F3D2R5E5R2F7R3E5R5F8E6BD3BL2P1,1
"
80 DRAW "BM52,176;C2U8L3G3H1E3R3U1R5D1R3F3G1H3L3D8L1U3L1D3BR1BU5C2P3,2
90 CIRCLE(53,162),3,3:PAINT(53,162),3,3:LINE(51,161)-(55,161),2:LINE(53,164)-(5
3,164),2:DRAW "BM53,159;C2E4BL8F4"
00 LOCATE 3,4:PRINT"*":LOCATE 4,9:PRINT"*":LOCATE 7,3:PRINT"*":LOCATE 6,14:PRIN
T"*":LOCATE 9,4:PRINT"*":LOCATE 10,13:PRINT"*"
10 LOCATE 3,13:PRINT CHR$(237);
20 CIRCLE(56,45),20,1,,,4:PAINT(56,45),1,1
30 LINE(36,43)-(76,47),2,BF
40 FOR CC=40 TO 72 STEP 8:CIRCLE(CC,45),3,3:NEXT CC
50 '
60 '*** MAKE LARGE LETTERS ***
70 '
80 AS="C1U30R20D15L5F5D10L5U10H5L5D15L5BR5BU20U6R8D6L8BD3P2,1"
90 OS="C1U30R20D30L20BE5U20R10D20L10BD1P3,1"
00 BS="C1U30R20D12G3F3D12L20BE5U20R9D5G5F5D5L9BG2P2,1"
10 DRAW "BM140,180;XAS;"
20 DRAW "BM170,180;XOS;"
30 DRAW "BM200,180;XBS;"
40 DRAW "BM230,180;XOS;"
50 RETURN
60 '
70 '*** BLANK OUT INPUT AREA ***
80 '
90 FOR X=1 TO 10:COLOR 1:COLOR 0:NEXT
00 FOR BL=5 TO 11:LOCATE BL,19:PRINT " ";;NEXT BL
10 RETURN
20 '
30 '*** SEND MESSAGE TO SAUCER ***
40 '
50 LINE(49,154)-(56,55),1:LINE(57,154)-(55,55),3
60 '
70 LINE(49,154)-(56,55),0:LINE(57,154)-(55,55),0
80 RETURN
90 '
00 '*** THE RESCUE OPERATION ***
10 '
20 GOSUB 1000
30 LOCATE 6,21:PRINT "PREPARE"
40 LOCATE 7,23:PRINT "FOR"
50 LOCATE 8,21:PRINT "RESCUE!"
60 BEAMS=CHR$(222)+CHR$(219)+CHR$(219)+CHR$(221)
70 FOR TRACTOR=8 TO 22:LOCATE TRACTOR,6:PRINT BEAMS;;NEXT TRACTOR
80 GOSUB 1000
90 LOCATE 6,20:PRINT "WE GOT HIM!"
00 FOR DL=1 TO 600:NEXT
10 FOR TRACTOR=22 TO 8 STEP -1:LOCATE TRACTOR,6:PRINT " ";;NEXT TRACTOR
20 LINE(55,175)-(48,55),2:LINE(62,55),2:LINE(55,175),2:PAINT(55,60),2,2
30 FOR TRACTOR=22 TO 8 STEP -1:LOCATE TRACTOR,6:PRINT " ";;SOUND 100-2*TRAC
TOR,.5:NEXT TRACTOR
40 FOR TRACTOR=22 TO 8 STEP -1:LOCATE TRACTOR,6:PRINT " ";;SOUND 100-2*TRAC
TOR,.5:NEXT TRACTOR
50 LINE(32,30)-(78,60),0,BF
60 '
70 '*** DO IT AGAIN? ***
80 '
90 LOCATE 4,6:PRINT "WOW !"
00 LOCATE 5,5:PRINT "HEY PAL"
10 LOCATE 7,3:PRINT "PLAY AGAIN?"
20 LOCATE 8,5:PRINT "[Y/N]"
30 AG$=INKEY$:IF AG$="" THEN 1320
40 IF AG$="Y" OR AG$="y" THEN RUN ELSE SCREEN 0:KEY ON:WIDTH 80:CLS

```


Though I had intended to discuss the MS-DOS SIG database and program downloading this month, a few very important new developments require our attention instead.

MS-DOS SIG Adopts Free Uploading Policy

In a continuing effort to make the Delphi MS-DOS SIG's database the best selection of online software available anywhere, free time is now being offered to members for program uploading.

Have you ever asked yourself, "Hey, why should I share my programs when it's going to cost me to upload them?"

Well stop talking to yourself. Or at least do it while you're uploading and submitting files to the database during those valuable free hours of online time. Share your programs with the other members, and they'll share theirs with you.

New Items Debut On the MS-DOS SIG Menu

Two new items have made their appearance on the MS-DOS SIG menu. The Delphi software is highly flexible, and changes will be made occasionally to make the SIG more vital and user-friendly.

Entry into your personal Workspace is now available right at the main SIG prompt. Before, the Workspace was accessible only by a tortuous route through the database topic menu; now it's just a W0 away as soon as you enter the group.

Also new on the SIG menu is Questions & Feedback. This is an area of "forms" that allow you to easily and quickly report problems you're having, ask for assistance, make suggestions for improvements, and request the free uploading time mentioned previously.

When you type QU at the SIG menu prompt, you will enter the Questions & Feedback area and discover four selections:

Feedback to SIG Staff, Request for Free Upload Time, Trouble Report and Order RAINBOWfest Tickets. RAINBOWfests are a series of trade shows for Tandy Color Computer users sponsored across the country by SOFT SECTOR's sister publication, the RAINBOW.

Delphi Now Offering the 'Advantage Plan'

For frequent users of the system, Delphi offers the "Delphi Advantage." Briefly, this plan reduces online charges for Advantage Plan members to an evening rate of \$6 an hour, compared to the standard basic hourly rate of \$7.20. In exchange, the member agrees to use at least four hours of online time each month; that is, a minimum charge of \$24.

There are several other benefits of the plan as well. If you're interested in the Delphi Advantage, you can get more specific information online or by calling Delphi at (800) 544-4005 or (617) 491-3393.

New Late-Night Summer Discount Rate Announced

If you think the minimum monthly charge for the Advantage Plan is not for you, there is another way to keep your online charges to a minimum. Delphi has announced a new late-night discount rate for the night owls who like to haunt the lines into the wee hours of the morning.

Throughout July and August, between the hours of 2 a.m. system time (EDT) and 7 a.m. Local Node Time, all users will receive one free minute for every 10 minutes used. This amounts to a 10 percent discount during those hours. Because of the time differences, it is a five-hour period for those in the Eastern U.S., but an eight-hour period for those on Pacific Time.

— Kevin Nickols
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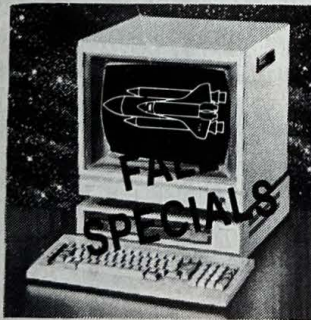
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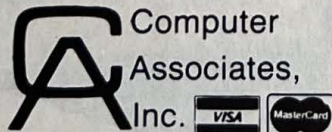
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Consumer Credit Loan Payment Calculator

Know how the
length of a loan and
the interest rate
affect both the
monthly payment
and total finance
charges



Many individuals are uncertain about the calculation of monthly payments on consumer credit loans. Some borrowers are unaware that during the early years of repayment, most of the payment amount goes to pay the interest on the loan. The interest a borrower pays on a home mortgage loan is tax deductible for the year he pays such interest. A borrower should know how the length of a loan and the interest rate affect both the monthly payment and total finance charges.

Before shopping for a mortgage loan, a borrower should familiarize himself with the mortgage payment calculations. There are programs written for the personal computer to calculate mortgage payments, but one always tries to find a better and easier way.

If you are planning to take a consumer credit loan on a fixed annual percentage rate (APR) to buy a house, automobile, appliance or any other item, this program will help to figure out your payments and interest on the loan.

Fixed Rate Mortgage

The program is designed to work only on fixed-rate mortgages. The federal consumer Truth-in-Lending law requires that the interest rates on consumer loans be stated in annual percentage rate terms.

Fixed rate mortgages have an annual percentage rate and monthly payments that remain constant over the life of the loan. This sets a maximum on the total amount of principal and interest you pay during the loan.

This program will calculate and prepare a monthly payment table based on the fixed annual percentage rate. It will also

Rabin Prusty holds a master's degree in civil engineering and is currently employed by the Department of Natural Resources. He is an experienced programmer in assembly language, FORTRAN and BASIC. He can be contacted at 1519-B Jackson St., Charleston, W. Va. 25311; (304) 345-0330.

calculate the amount of the total monthly payment, as well as principal and interest payments for any calendar year of the payment period or for the entire payment period.

After each payment, the table will show the balance of the loan remaining. The program is set up to handle a minimum payment period of one month to a maximum payment period of 100 years. You have to convert the payment period to months before you enter it. For example, the payment period for a 30-year loan will be 360, which is 30 multiplied by 12.

Program Application

The program has been written in Sanyo BASIC and will run as is on an IBM PC. This interactive program accepts input at an onscreen prompt.

First, you will be asked to enter the loan amount, annual percentage rate and payment period in months. Next, a program menu will be presented offering five options to choose from. If you select Option 1, the entire payment table will be displayed onscreen, one year at a time. Option 2 will display specific payments onscreen. Option 3 will print all payments and Option 4 will print specific payments on your printer.

You can exit from the program to BASIC by choosing Option 5. The program is relatively simple. Lines 100 to 185 define and initialize the variables; lines 190 to 250 perform payment calculations; lines 255 to 370 set up the program menu; lines 375 to 470 display the entire payment table onscreen (Option 1); lines 475 to 560 display specific payments onscreen (Option 2); lines 565 to 640 print all payments and specific payments on a printer (options 3 and 4).

This program is easy to use. In one touch, you can see the payments onscreen, or you can get a printout of the payments from your printer. The program will calculate total amounts for the monthly payment, principal and interest for any calendar year of the payment period which can be used in income tax calculations.


```

100 'CONSUMER CREDIT LOAN PAYMENT PROGRAM BY RP 01-10-86
105 REM DEFINE AND INITIALIZE THE VARIABLES
110 CLS:FOR K=0 TO 40:LOCATE 6,20+K:PRINT "*":NEXT
115 FOR K=1 TO 11:LOCATE 6+K,20:PRINT "*":LOCATE 6+K,60:PRINT "*":NEXT
120 FOR K=0 TO 40:LOCATE 18,60-K:PRINT "*":NEXT
125 LOCATE 9,27:PRINT "CONSUMER CREDIT LOAN PAYMENT"
130 LOCATE 11,31:PRINT "CALCULATION PROGRAM"
135 LOCATE 13,39:PRINT "BY":LOCATE 15,34:PRINT "Rabin Prusty"
140 FOR K=1 TO 1000:NEXT K:DEFDBL A-J,L-Q,S-Z
145 OPTION BASE 1:XX=0:YY=0:ZZ=0:XN=12:RR$="TOTAL":CLS
150 PRINT "ENTER LOAN AMOUNT IN DOLLAR AND <RETURN>":PRINT
155 INPUT "====>";LN:LO=LN:PRINT
160 PRINT "ENTER INTEREST RATE IN PERCENT AND <RETURN>":PRINT
165 INPUT "====>";IR:IN=IR/XN/100:PRINT
170 PRINT "ENTER PAYMENT PERIOD IN MONTH AND <RETURN>":PRINT
175 INPUT "====>";PN:PRINT
180 IF PN<1 OR PN>100*XN THEN 170
185 DIM PR(PN),IT(PN),BL(PN)
190 REM PERFORM PAYMENT CALCULATIONS
195 AA=IN*(1+IN)^PN
200 BB=(1+IN)^PN-1
205 CC=AA/BB*LN
210 FOR K=1 TO PN
215 IT(K)=LO*IN
220 PR(K)=CC-IT(K)
225 BL(K)=LO-PR(K)
230 LO=LO-PR(K)
235 XX=XX+CC
240 YY=YY+PR(K)
245 ZZ=ZZ+IT(K)
250 NEXT
255 REM SET UP THE PROGRAM MENU
260 CLS:PRINT:PRINT:PRINT "***** PROGRAM MENU *****":PRINT:PRINT
265 PRINT " 1 To Display All Payments (";PN;:PRINT ") On The Screen":PRINT
270 PRINT " 2 To Display Specific Payments (12 max.) On The Screen":PRINT
275 PRINT " 3 To Print All Payments (";PN;:PRINT ") : PRINTER MUST BE READY"
280 PRINT
285 PRINT " 4 To Print Specific Payments (12 max.) : PRINTER MUST BE READY"
290 PRINT
295 PRINT " 5 To Exit From The Program To BASIC":PRINT:PRINT
300 LINE INPUT " ENTER YOUR CHOICE (1-5) -----> ";RA$:KA=VAL(RA$)
305 PRINT:PRINT
310 IF KA<1 OR KA>5 THEN 300
315 ON KA GOTO 320,330,325,330,645
320 KX=1:KY=PN:GOTO 380
325 KX=1:KY=PN:GOTO 570
330 PRINT TAB(10) "Beginning Payment No.(1-";PN;:PRINT ")";
335 INPUT "----->";KX:PRINT
340 IF KX<1 OR KX>PN THEN 330
345 IF KX+11>PN THEN KC=PN ELSE KC=KX+11
350 PRINT TAB(10) "End Payment No.(";KX;:PRINT "-";KC;:PRINT ")";
355 INPUT "----->";KY:PRINT
360 IF KY<KX OR KY>KC THEN 350
365 IF KA=2 THEN 480
370 IF KA=4 THEN 570
375 REM DISPLAY THE ENTIRE PAYMENT TABLE ON THE SCREEN
380 CLS:PRINT TAB(27) "MONTHLY LOAN PAYMENT"
385 PRINT
390 PRINT USING " LOAN = $###,###.##";LN;:PRINT USING " IR (%) =##.##";
IR;:PRINT " PMT.PERIOD =";PN:PRINT
395 PRINT "PMT.NUM";:PRINT TAB(16) "PAYMENT";:PRINT TAB(32) "PRINCIPAL";:PRINT T
AB(49) "INTEREST";:PRINT TAB(66) "BALANCE"

```




```

400 PRINT:KD=0
405 FOR K=KX TO KY
410 KD=KD+1
415 PRINT USING "#####";K;:PRINT USING "          #####.##";CC;PR(K);IT(K);BL(K)
420 IF K=PN THEN 450
425 IF KD=12 THEN 435
430 NEXT
435 LOCATE 24,13:PRINT "***** PRESS SPACE BAR TO CONTINUE *****"
440 IF INKEY$=" " THEN 445 ELSE 440
445 KX=KX+12:GOTO 380
450 PRINT "-----"
-----"
455 PRINT USING "#####";K;:PRINT USING "          ###,###.##";XX;YY;ZZ;:PRINT TAB(66)
) RR$
460 PRINT "-----"
-----"
465 LOCATE 24,6:PRINT "***** PRESS ' M ' TO RETURN TO PROGRAM MENU *****"
*****"
470 IF INKEY$="M" OR INKEY$="m" THEN 260 ELSE 470
475 REM DISPLAY SPECIFIC PAYMENTS ON THE SCREEN
480 CLS:PRINT TAB(27) "MONTHLY LOAN PAYMENT"
485 PRINT
490 PRINT USING "      LOAN = $###,###.##";LN;:PRINT USING "          IR (%) =##.##";
IR;:PRINT "          PMT.PERIOD =";PN:PRINT
495 PRINT "PMT.NUM";:PRINT TAB(16) "PAYMENT";:PRINT TAB(32) "PRINCIPAL";:PRINT T
AB(49) "INTEREST";:PRINT TAB(66) "BALANCE":PRINT
500 XA=0:YA=0:ZA=0:KK=0
505 FOR K=KX TO KY
510 KK=KK+1
515 XA=XA+CC
520 YA=YA+PR(K)
525 ZA=ZA+IT(K)
530 PRINT USING "#####";K;:PRINT USING "          #####.##";CC;PR(K);IT(K);BL(K)
535 NEXT
540 PRINT "-----"
-----"
545 PRINT USING "#####";KK;:PRINT USING "          ###,###.##";XA;YA;ZA;:PRINT TAB(66)
) RR$
550 PRINT "-----"
-----"
555 LOCATE 24,6:PRINT "***** PRESS ' M ' TO RETURN TO PROGRAM MENU *****"
*****"
560 IF INKEY$="M" OR INKEY$="m" THEN 260 ELSE 560
565 REM PRINT ALL PAYMENTS OR SPECIFIC PAYMENTS ON A PRINTER
570 LPRINT TAB(27) "MONTHLY LOAN PAYMENT":LPRINT
575 LPRINT USING "      LOAN = $###,###.##";LN;:LPRINT USING "          IR (%) =##.##";
IR;:LPRINT "          PMT.PERIOD =";PN:LPRINT
580 LPRINT "PMT.NUM";:LPRINT TAB(16) "PAYMENT";:LPRINT TAB(32) "PRINCIPAL";:LPRI
NT TAB(49) "INTEREST";:LPRINT TAB(66) "BALANCE":LPRINT
585 XA=0:YA=0:ZA=0:KK=0
590 FOR K=KX TO KY
595 KK=KK+1
600 XA=XA+CC
605 YA=YA+PR(K)
610 ZA=ZA+IT(K)
615 LPRINT USING "#####";K;:LPRINT USING "          #####.##";CC;PR(K);IT(K);BL(K)
620 NEXT
625 LPRINT "-----"
-----"
630 LPRINT USING "#####";KK;:LPRINT USING "          ###,###.##";XA;YA;ZA;:LPRINT TA
B(67) RR$
635 LPRINT "-----"
-----"
640 GOTO 260
645 END

```


REVIEWS

Software review

Key Entry III — Well-designed Database Management

KeyEntry III is a complete microcomputer-based data entry system capable of running on the Sanyo 675, 775 and 885 series computers with 256K, either dual drives or one floppy drive and a hard disk, and DOS 2.0 or higher.

Written in assembly language, *KeyEntry III* is used to create and edit standard ASCII data files. Using fixed length records and fields provides direct compatibility with most large mainframe and minicomputers. Most database and file management systems are typically too slow for high volume data entry applications. Also, most file management systems

do not create data files that are directly compatible with large computer systems.

Only a few DBMS-type capabilities are provided in *KeyEntry III*. The strong suit of this program is to facilitate the fastest and most accurate key entry of data possible. In fact, the literature indicates that *KeyEntry III* is capable of accepting in excess of 30,000 keystrokes per hour with no lost characters.

The majority of my time was spent in the tutorial portion of the manual learning the fundamentals of the program. I found the manual and information on the screen to be clear and concise. The tutorial provides a good, hands-on review of the major features of *KeyEntry III*. In addition to the basic material concerning the computer and the operating system, the following areas are covered in detail:

- File Descriptions
- Starting Up Of *KeyEntry III*
- Entering Data and Creating Data Files
- Use of the Function Keys
- Data Checking Capabilities and Validation
- Automatic Incrementing of Data Fields
- Autocapitalization of Proper Names
- Format Levels of Records
- Switching Between Format Records
- Saving Data Files
- Help Menus
- Two Screen Displays
- Help Files
- Location of Records
- Editing Records: Add, Delete, Display, Sort
- Verification
- Substitute Keying

After study of this chapter, the remaining chapters were easier to understand and to apply. Without covering in detail the additional chapters, I will only highlight their contents.

Chapter 3 covers *KeyEntry III*'s processing modes and the control functions in each mode. Chapter 4 is concerned with the operating system functions. This system provides the interface between the user's program and the computer hardware.

The remaining chapters 5, 6, 7 and 8 are the reference chapters for building a job from scratch. This is where you will be performing most of the work in setting up the software for a particular job.

The programmer's guide is well-designed and thought out. After approximately one hour of review, I was able to begin the utilization of many of the program's features. The average user should have no problems in tailoring *KeyEntry III* to whatever application is required.

If you are performing high volume data entry on microcomputers, this program is what is needed. Microcomputers provide an alternative to keypunch machines and key-to-disk systems. Instead of sending work out to be keypunched, those businesses with an investment in PC's should consider using those PC's and training personnel in-house in the aspects of high volume entry.

Since PC's are available in any configuration and have the ability to perform numerous other tasks, it may be worthwhile for a business to follow this approach.

This is an interesting program and from an ease-of-use and the ability to be on-line quickly standpoint, the program is highly recommended.

(Southern Computer Systems, P.O. Box 55473, Birmingham, AL 35255; 205-251-2985, \$895 plus \$10 S&H)

— Edward Champion

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 plus above CALL



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DC-10 — Flight Simulation at Its Best

Have you ever wondered what it would be like to pilot one of those big commercial aircrafts that fill the skies above us? The people at Molimerx LTD, in cooperation with MichTron, have created *DC-10*, a professional flight simulator that is sure to satisfy your curiosity. *DC-10* is a graphics-oriented simulation that gives a clear and accurate description of flying a DC-10 airplane.

When first exposed to *DC-10*, I was bewildered. Although the program utilizes excellent graphics, it was not at all what I expected. I anticipated a game, much like that from an arcade, in which I would be flying through the clouds, swooping and diving as I watched objects zoom past. Instead, I found myself staring at a complex control board with no visual of the outside world whatsoever.

It was explained to me that a jumbo jet pilot rarely uses anything but the instruments in front of him to fly. The kind of flying that I expected is called "seat of the pants" flying, and is seldom, if ever, heard of in the commercial airline industry. So what was I to do with all of these foreign controls, dials, indicators, lights, and the like? What else could I do? I read the directions.

DC-10 is amazingly realistic. The program uses all of the major indicators and controls that exist on a real DC-10. Designed by a real pilot in conjunction with a professional programmer, the simulation is far from being a game. *DC-10* puts you in a real-life situation with dozens of variables that not only test your memory, but your decision making abilities as well.

Preflight includes setting and charting destination, making cargo decisions and calculating fuel necessities. Then the pilot must execute takeoff.

To me, and to the others with whom I talked, takeoff was the most frustrating experience of the entire simulation. For the beginner, it requires a great deal of insight and attention that only time and experience can give. Therefore, your first takeoff may required dozens of attempts before the ship is actually in the air. If you stick with it though, it does give you a definite feeling of accomplishment.

Once in the air, maneuvering is limited. It is not that the controls won't allow you to do a lot of maneuvering, on the contrary, you are perfectly free to do whatever you wish. You must remember, however, that you are flying an extremely large aircraft, and that doing loops or flying upside down may lead to disaster.

In my experience, I was perfectly happy just to be flying (after spending so much time trying to take off). The trip will be relatively short, and then it will be time to land.

Landing the plane was the most impressive part of the journey. As I said previously, the authors have taken a great deal into account to make this a real-life situation. The landing illustrates this best. When actually flying, a landing is executed by way of an ILS beam, which is a radio beam sent out by the airport. A plane must contact the beam and follow it in for landing. The situation is no different in *DC-10*. I found it to be extremely challenging. Overshooting the beam, flying too low and crashing, and other hazards accompanied my many attempts.

All in all, I found the simulation to be one that I will not soon forget. It has piqued my interest in flying and has given me an experience that few ever encounter.

As far as the mechanics of the program go, it has excellent graphics (on the Sanyo this is to be expected) and reacts accordingly to a real-life situation.

The program is thorough in many ways. Not the least of these being the manual. The manual is extremely well-done. It is comprised of two separate sections, the first being dedicated to the theory of flight. In this section, the user gets a chance to see how the airplane he is flying is designed, built and functions.

In the second section, the user is introduced to the simulator and its operation. Throughout the entire manual there are dozens of diagrams, pictures and maps that clarify each new point. The manual can become a little boring and even monotonous at times, but overall it does a good job in preparing and informing the reader.

In closing, I would like to remind any potential users that this is not a toy by any means. You will be severely disappointed if you buy this with an arcade game in mind. The program requires a great deal of time, patience and interest on the part of the user.

Because of the price, it is advised that you sample the program before buying, unless of course it is a flight simulator that you are looking for. If this is the case, *DC-10* is assuredly worth your money.

(MichTron, 576 S. Telegraph, Pontiac, MI 48053; 313-334-5700, \$39.95)

— William F. Heitzeg

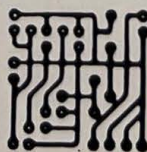
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Compu-Golf — The Do's and Don'ts of Golfing

Compu-Golf is a program written using the teaching principles of golf pro Don Trahan. Mr. Trahan has been published extensively in *Golf Magazine*. He has been using the teaching method exercised in *Compu-Golf* for 20 years. His teaching method apparently works well.

Now, about the program; I have played just enough golf to know I'm not very good at it. I ran the program on my MBC-775 hoping to learn something. I didn't. I showed it to a friend who is an avid and accomplished golfer. He didn't care for it. I showed it to another friend. He didn't care for it either.

What *Compu-Golf* does is give you the text of Mr. Trahan's teaching philosophy. This is augmented by a section designed to analyze your golfing errors. You are prompted to answer questions about your grip and stance. *Compu-Golf* will then show you, in very nice graphics, what both your grip and stance look like. Another graphics screen shows you what a good shot looks like. It also displays a hook and a slice. You tell it which of the bad shots you are guilty of and it tells you how to stop doing it.

My opinion is that you would be far better off to buy a book on the subject and/or spend a few hours with a golf pro rather than pay \$89.95 for *Compu-Golf*. The graphics are nice, but you have to know a lot about what you're doing wrong to get much help from the program.

Compu-Golf, from a purely software standpoint, is copy protected and cannot be put onto a hard disk. This is a disadvantage for a program which requires the use of three floppy diskettes.

The little card which comes with *Compu-Golf* under the guise of documentation, tells you how to run with one floppy drive, two floppy drives and one floppy and a hard disk. If you have one floppy and a hard disk, just ignore the hard disk — now there's a suggestion for you.

The whole thing is poorly thought out and poorly executed. The text of Mr. Trahan's teaching philosophy is a lesson in poor spelling. The program is cumbersome to use and not worth the effort to try. Computerized golf may be a good idea, but I suggest you pass on this one.

(DGT, Inc., 100 Galleria Parkway, Suite 400, Atlanta, GA 30339; (404) 951-4800, \$89.95)

— Jim Pile

SANYO MBC 550/555 BEGINNER & INTERMEDIATE GUIDE by Fred Blechman

This 361-page CBS Computer Book, published by Holt, Rinehart & Winston, is sold with an SSDD diskette that has 56 programs from the book. A printed directory specifies the page(s) where each program on the disk is listed, described or explained. The book contains a complete course in Sanyo BASIC (including color and graphics), translations from other BASICs, MS-DOS primer, communications primer, hardware and software reviews and sources. Also included are ten complete home, personal use, hobby, and business programs.

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QuickCode & Program Development — Easy-to- follow Guide on System and Program Design

This book does more than expand on using *QuickCode*: it gives a clear method to follow in designing a system, the proper way to write code, and the code for a working "card file" system to track *WordStar* files using *dBASE II*. All this in 318 easy-to-read pages! Marc Hussman wrote *QuickCode & Program Development* to be used as a reference book for *QuickCode*. But while he was doing that he also established, in easy-to-follow terms, a guide to system development.

The chapter on the development process alone is worth the price of the book. Hussman explains that this chapter is an "overview of the development process . . ." In only five pages, he has written one of the best system design outlines I have seen in 14 years of working with computers. This is followed with an equally good chapter on program documentation. It also includes a chapter on customizing the *QuickCode* keyboard layout, among others.

The system design is called the *Librarian*, and it is made to help keep track of large amounts of correspondents on hard and/or floppy disks. The bulk of the book is made up of the component *QuickCode* programs that make up the *Librarian* system. Each program is treated as a separate function, 14 in all, and has its own chapter, some of which include a full page for the screen output. Each of the program chapters consists of the program's objective, what calls the program, what the program calls, definitions of the variables used and organization of the code.

Once the program design is explained, the actual *QuickCode* program is given. If you don't like the basic program, Hussman follows the basic design and code with an improved design and code for some of the functions.

Along with all the *QuickCode* programs, there are chapters covering *dUTIL* from Fox & Geller using the *QuickCode* main menu, configuration menu, screen characteristics menu and *QuickCode* program menu.

Having trouble setting up screen layouts? Try the *QuickScreen* chapter. Its easy-to-follow instructions will have you generating screens in no time.

I know you're thinking this book sounds too good to be true. Well, the only flaw I found while going through this easy-to-read book is that it appears to be photocopied rather than offset printed. Some of the pages fade from one side to the other and one page has a fingerprint on it. This sounds trivial, but it is the only thing I found wrong.

In summary, if you need help with *QuickCode*, this book will do it. If you want to learn system and program design, *QuickCode & Program Development* is the best place to start without having to be a computer "expert" to understand it. To quote Hussman in his preface, "I have designed this book to help you solve your problems without wasting your time or money." And he has!

(Software Blueprints Inc., P.O. Box 2969 Seal Beach, CA 90740-1969, \$18.95)

— James G. Yearwood

Math Tutor I — An Apple for Sanyo's Math Teacher

Math Tutor I is a full-featured, well thought-out program designed to aid students in mastering the fundamentals of addition, subtraction, multiplication and division. Although focusing particularly on children in grades one through eight, there is a menu option that enables older children and adults to use the program for review or remedial work.

Math Tutor I has more levels of difficulty (36 in all) than any similar program I've seen. The levels span the range from simple addition and subtraction (with the largest answer being 10) to column addition of five three-digit numbers and long division of a five-digit number by a two-digit number where the remainder may not be zero. Each problem is randomly generated so the student does not rely on a sequence to provide clues to an answer.

One other feature that is valuable for both student and parent or teacher is the ability of *Math Tutor I* to keep track of answers. This provides two advantages: 1) The program remembers and repeats problems a student has missed; 2) At the end of a session, *Math Tutor I* provides a printed copy of the results. (Printout options are offered for 12 popular printers, mostly dot-matrix. Others may be used if one owns a screen dump program.) The printed results include problems the student missed, the difficulty level, the number of correct answers and errors, as well as the number of guesses. It also records the number of problems, the total time, the score and the student's response time per digit. All of these are combined in a "skill rating" which combines score, speed and difficulty level.

The documentation is complete and clearly written. Although the slim 51-page booklet does not have an index, the table of contents is adequate since the necessary documentation is brief and well-organized. In fact, for the most part, the documentation is almost superfluous since the program is completely menu driven. The documentation does, however, completely explain the thinking behind some of the design choices, and from an educational point of view is quite informative.

Math Tutor I is very easy to use once it has been learned. Our youngest daughter, who just completed kindergarten, was fascinated by the program and, after a few sessions, learned to start it up and operate it alone. However, since she cannot yet read well, we often had to help her start the program if it had been more than a few days since she'd used it.

The program is extremely flexible, which is wonderful. However, for children in the lower grades, or for those who cannot read well, the start-up process is a bit complex. The program requires that several choices be made each time it begins or each time a new student begins work: e.g., Name? Bright screen with dark letters, or dark screen with bright letters? Sound (beep) or Quiet? Check to see if the keypad works or if you need to press NUM LOCK; Choose Grade Level (1-8, or G for Graduate); Problem Type (+ - × ÷); Easiest or Hardest problems within this level? That's seven choices each time (and there are more if certain menu options are chosen).

The flexibility of *Math Tutor I* is not without cost in the area of ease-of-use, particularly with young children. Although it is possible for them to use the program unassisted, an adult or older child often needs to help with the start-up process. At home this is a small problem, but in a classroom situation with many young children a teacher might think otherwise.

Although *Math Tutor I* is not a game, the program's author has obviously worked hard to make the learning process as painless as possible, if not downright enjoyable. At the top of the screen during the problem solving sequence is the following, which is constantly updated: YOU DID 57 PROBLEMS IN 2 min 39 sec - SCORE SO FAR: 84% @ 3.2 sec/digit, and YOUR SKILL RATING IS - 68 - OUT OF 100. The idea is to provide reinforcement and encouragement for the student to do even better by giving immediate feedback.

In order to further personalize and encourage the child there are 30 messages, one of which appears at the bottom of the screen following each problem. Many of them incorporate the student's name, e.g., GREAT, TRY ANOTHER ONE, TIM! or GOOD SCORE KARI, BUT CAN YOU GO FASTER? or TOTALLY AWESOME, SANDRA. The messages are cute, but for older children and adults it can become a bit wearisome. However, the psychology behind it is effective.

In conclusion, I need only note four brief items. The documentation says *Math Tutor I* requires at least 192K of RAM; it's not kidding. The screen layout is attractive and uncluttered and the program makes very good use of Sanyo's graphics capability. Error handling is excellent — the only way I found to accidentally interrupt things is to press the BREAK key. It comes "Satisfaction Guaranteed or your money back if the program is returned within 10 days of purchase." That's hard to beat!

Math Tutor I is not only helpful but also an enjoyable way of learning or reviewing a wide range of mathematical problems.

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An Index to the Articles,
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Appearing in SOFT SECTOR from
August 1985 through July 1986,
including a complete index to
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Compiled and Edited by
Belinda C. Kirby

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ASK SANYO

"Ask Sanyo" (December, 1985) 49 —A pipeline to Sanyo.
"Ask Sanyo" (February, 1986) 18 —A pipeline to Sanyo.
"Ask Sanyo" (March, 1986) 18 —A pipeline to Sanyo.
"Ask Sanyo" (May, 1986) 34 —A pipeline to Sanyo.
"Ask Sanyo" (June, 1986) 19 —A pipeline to Sanyo.
"Ask Sanyo" (July, 1986) 35 —A pipeline to Sanyo

BASIC TRAINING

Blechman, Fred "BASIC Training" (August, 1985) 22
■ (BT-1.BAS BT-2.BAS BT-3.BAS BT-4.BAS)
—Graphics in Sanyo BASIC.
Blechman, Fred "BASIC Training" (September, 1985) 48 ■
■ (LIST-1.BAS LIST-2.BAS) —Continuing our lesson on
Sanyo BASIC's graphics.
Blechman, Fred "BASIC Training" (October, 1985) 14
■ (LIST-1.BAS LIST-2.BAS) —Part III on Color
and Graphics.
Blechman, Fred "BASIC Training" (November, 1985) 11
—More Sanyo BASIC Graphics commands.
Blechman, Fred "BASIC Training" (December, 1985) 10
■ (BIOGRAF.BAS) —Charting your biorhythms.
Blechman, Fred "BASIC Training" (January, 1986) 38
—Handy BASIC hints.
Blechman, Fred "BASIC Training" (February, 1986) 24

—Transferring BASIC programs to the Sanyo.

Stone, Charlotte & Brian "BASIC Training" (March, 1986) 40 —The
different dialects of BASIC.
Blechman, Fred "BASIC Training" (April, 1986) 17 —Timing
your long-distance calls.
Blechman, Fred "BASIC Training" (May, 1986) 13
■ (LEDGER24.BAS) —A 24-column ledger program.

BUSINESS SECTOR

Stone, Charlotte & Brian "Business Sector" (August, 1985)
12 —Solutions to your applications problems.
Stone, Charlotte & Brian "Business Sector" (September,
1985) 69 —Solutions to your applications problems.
Stone, Charlotte & Brian "Business Sector" (October, 1985)
52 —Solutions to your applications problems.
Stone, Charlotte & Brian "Business Sector" (November,
1985) 62 —Solutions to your applications problems.
Stone, Charlotte & Brian "Business Sector" (December,
1985) 62 —Solutions to your applications problems.
Stone, Charlotte & Brian "Business Sector" (January, 1986)
62 —Solutions to your applications problems.
Stone, Charlotte & Brian "Business Sector" (February, 1986)
54 —Solutions to your applications problems.
Stone, Charlotte & Brian "Business Sector" (March, 1986)
56 —Solutions to your applications problems.
Stone, Charlotte & Brian "Business Sector" (April, 1986) 56

—Solutions to your applications problems.

Stone, Charlotte & Brian "Business Sector" (May, 1986) 57
—Solutions to your applications problems.
Stone, Charlotte & Brian "Business Sector" (June, 1986) 58
—Solutions to your applications problems.
Stone, Charlotte & Brian "Business Sector" (July, 1986) 57
—Solutions to your applications problems.

BUSINESS

Bryant, James "TaxFile" (February, 1986) 10 ■ (TAX
FILE.MAR TAXFILE.SNG FEDTAX.B AS) —Advance
tax planning on your Sanyo.
Craig, Robert J. "Stock Tracker" (June, 1986) 21 ■ (STOCK
.BAS) —Profitable an alysis.
Horner, Monty "Voting Machine" (May, 1986) 20 ■ (VOTE
MACH.BAS) —Tally the totals on your Sanyo.
Izzi, Michael "DataPlot" (September, 1985) 72 ■ (DATA
PLOT.BAS) —Graphically analyze your data.
Kerns, Edward "Calculator Emulator" (November, 1985) 14
■ (CAL.BAS) —A desktop calculator for your Sanyo.
McCoy, Robert E. "Determining Present Value" (September,
1985) 44 ■ (PRESVALU.BAS) —Learn to invest for future
returns.
Smart, George M. "Starting From Johnson's Rule" (January,
1986) 22 ■ (SCHEDULE. BAS) —Project scheduling to
obtain efficiency.

- "Clubs" (November, 1985) 60
 "Clubs" (March, 1986) 54

COMMUNICATIONS

- Plaut, Mordecai "The Basics of a BASIC Terminal Program" (March, 1986) 43 ■ (BTERM.BAS STERM.BAS) —A simple terminal program.

DATABASE

- Hardy, James K. "CardFile" (November, 1985) 22 ■ (CARD FILE.BAS) —A BASIC file program to get you organized.

EDUCATION

- Webber, Dan "Quiz Master" (November, 1985) 30 ■ (QUIZ.BAS) —An educational program for you and your kids.

GAMES

- Besaw, Gary & Julius, Tab "Othello" (June, 1986) 44 ■ (OTHELLO.BAS) —Graphics gamesmanship.
 Boutell, Thomas "The Mad Kingdoms" (July, 1986) 32 ■ (KINGDOM.BAS) —War games with a medieval bent.
 Brestel, Pat "Turtle Racing" (December, 1985) 16 ■ (RACE.BAS) —Bet on a sure winner with this entertaining game.
 Freeman, Matthew P. "BatBall" (December, 1985) 30 ■ (BATBALL.BAS) —A good action and graphics game.
 Hyre, Leonard "Land Of The Cave Bear" (September, 1985) 28 ■ (BEAR.BAS GWMOD.BAS) —An Adventure back into time.
 Lane, Greg "Crash" (December, 1985) 56 ■ (CRASH.BAS) —Work your way down the winding road.
 MacKenzie P. & Sorensen, J. "The Development of Life On Your Sanyo" (October, 1985) 28 ■ (LIFE.BAS LIFE.ASM) —An age-old mathematical game.
 McGuire, Jon "Galactic Empire" (April, 1986) 44 ■ (EMPIRE.BAS) —Battle management on a grand scale.
 Willert, Gary "The Permutable Puzzler" (December, 1985) 38 ■ (PUZZLER.BAS) —A digital diversion for the hacker.

GRAPHICS

- Dzomback, Bill "Switch On The Color" (May, 1986) 36 ■ (SANCOLOR.BAS) —COLOR commands for monochrome monitors.
 Frame, Jon P. "Plotting The Picture" (July, 1986) 14 ■ (CHRTPLAN.JPF MAINWORK.JPF DATWORKS.JPF BARWORKS.JPF) —Full-color business graphics.
 Hyer, Paul V. "Kaleidoscope" (December, 1985) 13 ■ (KAL08.BAS KAL12.BAS) —Enjoy your own kaleidoscope drawings.
 McGuire, Mick & Jon "High Resolution Daisy Wheel Graphics" (October, 1985) 44 ■ (STARDUMP.BAS GRA PHICS.BAS) —Quality screen dumps on a daisy wheel.
 Neuendorf, Dave & Patti "Automating Your Spider Graphics" (September, 1985) 71 ■ (SPIDERM.BAS) —Automatically merge and run spider routines.
 Quante, Charles A. "Finger Paints" (February, 1986) 20 ■ (PAINTER.BAS) —A colorful graphics program that's fun.
 Robinson, Ray C. "DRAW\$" (April, 1986) 28 ■ (DRAW\$.BAS) —A new graphics command for Sanyo BASIC.
 Smith, Ron "TinyCAD" (June, 1986) 10 ■ (TINYCAD.BAS) —Computer-assisted drafting.

HELPFUL HINTS

- Buttenhoff, Ed "Speeding Up WordStar" (November, 1985) 29
 Shapiro, Stewart "More Acclaim For Reclaim" (January, 1986) 64
 White, Bruce A. "Conversion Charts" (November, 1985) 36
 White, Bruce A. "A Character Reference" (January, 1986) 45
 Zeiger, Mark "Bug Report!" (December, 1985) 60

HOME AND HOBBY

- Baines, Richard A. "Car Cost" (June, 1986) 55 ■ (CARCOST.BAS) —Automotive economics.
 Craig, Robert J. "Hurricane Tracker" (August, 1985) 48 ■ (TRACKER.BAS) —Keep track of tropical storm developments.
 Erns, Edward "Adding Leaves To The Family Tree" (December, 1985) 22 ■ (FAMILY.BAS) —Trace your roots with this handy program.
 Ebron, Felipe "Mind Jogger" (March, 1986) 28 ■ (MIND-JOG.BAS) —Keep your "laundry" list up-to-date.
 McGuire, Mick "Electrical Cost Calculator" (March, 1986) 19 ■ (ENERGY.BAS) —Conduct your own home energy audit.
 eberding, Bill "Medical Records" (April, 1986) 36 ■ (MED.BAS) —Keep track of medical bills and prescriptions.

- Richmond, Raymond "Biorhythms" (May, 1986) 28 ■ (BIORYTHM.BAS) —Plot life's ups and downs.
 Williams, Dick "Golf Log" (July, 1986) 10 ■ (GOLFLOG.BAS) —A recreational secretary.

HARDWARE PROJECTS

- Jack, Bob "Piggybacking" (April, 1986) 20 —Adding 512K on your 555. (Corrections, June '86, P.38)
 McGuire, Mick "An \$11 Null Modem" (January, 1986) 30 ■ (UPLOAD.BAS DOWNLOAD.BAS M-100.BAS CONNECT.BAS) —Build your own null modem.
 Orlando, John III "Power Supply Upgrade" (October, 1985) 10 —Allow for add-ons that require more power.
 Sites, Chuck "Build An Atari Joystick Interface" (August, 1985) 72 ■ (ATARI-1.BAS ATARI-2.BAS) —Build your own joystick interface.
 Tevonian, Ron "Monitor Compatibility & Vertical Interlace" (September, 1985) 52 —Improve your RGB monitor output.

INPUT/OUTPUT

- Purves, Tim "Input/Output" (August, 1985) 76 —Answers to your technical questions.
 Purves, Tim "Input/Output" (September, 1985) 23 —Answers to your technical questions.
 Purves, Tim "Input/Output" (October, 1985) 17 —Answers to your technical questions.
 Purves, Tim "Input/Output" (November, 1985) 34 —Answers to your technical questions.
 Purves, Tim "Input/Output" (December, 1985) 54 —Answers to your technical questions.
 Purves, Tim "Input/Output" (January, 1986) 49 —Answers to your technical questions.
 Purves, Tim "Input/Output" (February, 1986) 33 —Answers to your technical questions.

MISCELLANEOUS

- Ellers, Ed "Soft Soapbox" (May, 1986) 7
 Ellers, Ed "Soft Soapbox" (June, 1986) 7
 Ellers, Ed "Soft Soapbox" (July, 1986) 7
 Falk, Lonnie "Soft Soapbox" (November, 1985) 8
 Falk, Lonnie "Soft Soapbox" (April, 1986) 7
 Kirby, Belinda "Soft Soapbox" (September, 1985) 8
 Kirby, Belinda "Soft Soapbox" (October, 1985) 8
 Kirby, Belinda "Soft Soapbox" (December, 1985) 8
 Kirby, Belinda "Soft Soapbox" (January, 1986) 8
 Kirby, Belinda "Soft Soapbox" (February, 1986) 6
 Kirby, Belinda "Soft Soapbox" (March, 1986) 7
 Kirby, Belinda C. "The First Year of Soft Sector" (August, 1985) 39 —A complete index to the first 12 issues.
 Leonard, Louis "An Open Letter From Sanyo" (July, 1986) 49
 Nickols, Kevin "Soft Soapbox" (August, 1985) 8 —Comments on first year of Soft Sector.
 Nickols, Kevin "Delphi Bureau" (January, 1986) 61
 Nickols, Kevin "Delphi Bureau" (February, 1986) 49
 Nickols, Kevin "Delphi Bureau" (April, 1986) 6
 Nickols, Kevin "Delphi Bureau" (May, 1986) 43
 Nickols, Kevin "Delphi Bureau" (June, 1986) 57
 Nickols, Kevin "Delphi Bureau" (July, 1986) 56

MASTERING MS-DOS

- Humphress, Danny "Mastering MS-DOS" (August, 1985) 18 —BATCH Man continues the good fight.
 Humphress, Danny "Mastering MS-DOS" (September, 1985) 40 —Climbing the hierarchal tree.
 Humphress, Danny "Mastering MS-DOS" (October, 1985) 12 —Follow the Yellow Brick Path.
 Humphress, Danny "Mastering MS-DOS" (November, 1985) 49 —Learn about power features — device drivers.
 Humphress, Danny "Mastering MS-DOS" (December, 1985) 52 —Exploring ANSI.SYS.
 Humphress, Danny "Mastering MS-DOS" (January, 1986) 12 —Prompts with style.

MUSIC

- MacKenzie, P. & Sorensen, J. "The Better BASIC Bureau" (September, 1985) 10 ■ (INSTALL.BAS MUSIC.BAS SND-PLAY.ASM) —Institute two of Sanyo BASIC's missing key words.
 Miller, Paul "Sanyo Synthesizer" (June, 1986) 50 ■ (SANYO SYN.BAS LISTING2.BAS COMPILER.BAS LISTING 4.BAS) —A more musical Sanyo 555.

ONE-LINERS

- Billman, Dale J. "Home Loan Interest" (November, 1985) 51
 Bowen, Paul M. "Reverse Ellipses" (November, 1985) 51
 Cochran, William D. "Papers, Mod Art or Chaos?" (May, 1986) 6
 Doeff, Michael "Peacock" (September, 1985) 25
 Doeff, Michael "Shell Designs" (January, 1986) 47
 Duchon, James C. "Shooting Star" (March, 1986) 6
 Erickson, Eric "Pig Latin" (August, 1985) 76

- Fortin, Yvan "Slot Machine" (October, 1985) 51
 Freeman, Matthew "Soft Sector At Large" (August, 1985) 76
 Glenn, Lawrence "Staircase" (August, 1985) 76
 Gursel, Yekta "Snake" (September, 1985) 25
 Hensen, John C. "Rings Of Power" (August, 1985) 26
 Hergert, Don "Shell" (August, 1985) 26
 Herold, Thom R. "Multi-Graph" (August, 1985) 76
 Heymann, S.E. (Ned) "Postage Meter" (August, 1985) 76
 Holzbauer, Philip "Printed Directories" (December, 1985) 6
 Lane, Greg "XOR Box" (August, 1985) 26
 Logreco, John N. "Address" (February, 1986) 46
 McGrath, Patrick "Kilobuck Metronome" (September, 1985) 25
 McGuire, Jon "Sinewaves" (March, 1986) 6
 McGuire, Jon "Artifact" (April, 1986) 60
 Milroy, Dick "Color Combinations" (June, 1986) 54
 Monsefi, Khashy "Speed" (February, 1986) 46
 Norby, Matt "DODGEM" (November, 1985) 51
 Pentecost, Allan "Resistor" (December, 1985) 64
 Pike, Kevin "Bubble Blowing Contest" (March, 1986) 39
 Pike, Kevin "3-D With COS and SIN" (April, 1986) 60
 Quinell, Kyle C. "Blue Star" (October, 1985) 51
 Raymond, Dave "Flash" (December, 1985) 64
 Richmond, Raymond "Psychedellic Sunrise" (November, 1985) 51
 Sanders, Richard "BatLook" (February, 1986) 46
 Smith, Chuck Jr. "Diagonal" (September, 1985) 25
 Torres, John R. "Solar" (January, 1986) 47
 Viessman, Rodney "Spirals" (March, 1986) 39
 Walker, Matthew "Outline Gives Eye-Catching Results" (May, 1986) 43

PRINTERS

- Anderson, Sue "Design Your Letterhead" (April, 1986) 14 ■ (DOGLETHD.BAS) —Graphics for your letters.
 Hardy, James K. "Sanyo Screen Dump" (May, 1986) 44 ■ (SCRNDUMP.BAS) —Unload your graphics displays.
 Hyre, Leonard "Disk Label Maker" (May, 1986) 10 ■ (DISK LABL.BAS) —Keep your disks more organized.
 Lewis, Mitchell "ASCII Screen Dump For The Sanyo 555" (October, 1985) 56 ■ (ASCII-SD.BAS ASCII-SD.ASM ASCII-SD.COM) —A money-saving screen dump program.
 Selig, Paul Jr. "Disk Label Plus" (August, 1985) 69 ■ (DSKLABEL.BAS) —Create your own disk labels.
 Sipler, Wayne R. "Envelope Addresser" (November, 1985) 37 ■ (ENVELOPE.BAS) —Produce neatly typed envelopes. (Corrections, Dec. '85, P.51)
 Vandermeersch, John S. "Memo Writer" (February, 1986) 28 ■ (MEMOWRTR.BAS) —A simple program to help produce memos.
 Wickline, Gregory G. "Po" Folks Printer Control" (July, 1986) 50 ■ (PRNCTRL.BAT) —Set printing mode from a batch file.

REVIEWS

- Baines, Clinton "Temp-Plates" (July, 1986) 37
 Baines, Clinton "Viking II" (July, 1986) 40
 Baker, Stephen W. "Dear Word" (October, 1985) 39
 Barry, Ambrose Bo "Respond" (April 1986) 25
 Blechman, Fred "BDL Homework" (February, 1986) 42
 Champion, Edward "SanyGraf" (January, 1986) 42
 Champion, Edward "Bottomline Capitalist" (January, 1986) 44
 Champion, Edward "Query" (April, 1986) 25
 Champion, Edward "Macro-Toolkit and ASCII Toolkit" (April, 1986) 26
 Champion, Edward "PC STAT" (May, 1986) 51
 Champion, Edward "Opus" (June, 1986) 42
 Chang, Bill "Prickly-Pear Datapack" (September, 1985) 61
 Chang, Bill "Oki Font-Do" (September, 1985) 63
 Chang, Bill "Tax Preparation Software" (February, 1986) 45
 Chang, Bill "The Great Communicator" (May, 1986) 48
 Chumney, John "OTC Stock Exchange" (March, 1986) 24
 Dorth, Monica "Astrology" (April, 1986) 24
 Ecker, Michael W. "SanyCad" (October, 1985) 40
 Ecker, Michael W. "MyCalc" (February, 1986) 44
 Ellers, Ed "VidSwitch550" (August, 1985) 63
 Falk, Lonnie "XTREE" (August, 1985) 61
 Falk, Lonnie "Software Golden Oldies" (September, 1985) 60
 Falk, Lonnie "Chuckle Pops" (May, 1986) 48
 Falk, Lonnie "SmartNotes" (June, 1986) 39
 Jack, Bob "NEC V20 Chip" (February, 1986) 39
 Kerns, Edward "Quikproll" (June, 1986) 43
 MacDonald, Bob "Scripture Memory" (November, 1985) 42
 MacDonald, Bob "Sanyo Graphic Screen Dump" (December, 1985) 44
 MacDonald, Bob "Open Access" (January, 1986) 43
 Maloney, Skip "TypeRight" (September, 1985) 56
 Maloney, Skip "Spell" (November, 1985) 44
 Maloney, Skip "Fortune Teller" (July, 1986) 38
 Meyer, Larry L. "Checks & Balances" (May, 1986) 49
 Pile, Jim "ABAS" (August, 1985) 63
 Pile, Jim "Disk Catalog System" (November, 1985) 41
 Pile, Jim "FastStar" (November, 1985) 43
 Pile, Jim "Atlas" (December, 1985) 41
 Pile, Jim "CoForth" (January, 1986) 41
 Pile, Jim "The MBC-675 — Sanyo's New Transportable" (February, 1986) 36 —A review of Sanyo's new portable.

A Desktop Delight — The MBC-885 (March, 1986) 36 — An in-depth review of the 885.
 e, Jim "ProDesign II" (March, 1986) 25
 e, Jim "Sanyo ECR-360" (March, 1986) 26
 e, Jim "Thoroughbred Handicapper" (April, 1986) 23
 e, Jim "Media Master" (June, 1986) 39
 e, Jim "Macro Track" (June, 1986) 40
 e, Jim "Turbo Lightning" (July, 1986) 36
 urcell, Geoff "Refer" (January, 1986) 41
 urcell, Geoff "Envoy" (March, 1986) 23
 obinett, Stephen "WordPerfect 4.0" (September, 1985) 64
 chlosser, John E. "Smart Key II Plus" (August, 1985) 60
 chlosser, John E. "Fancy Font" (October, 1985) 42
 chlosser, John E. "Turbo Drive 550" (December, 1985) 41
 Shapiro, Stewart "Forbidden Temple" (October, 1985) 39
 Shapiro, Stewart "Turbo Toolkit" (November, 1985) 41
 Shapiro, Stewart "MyChess" (December, 1985) 43
 Shapiro, Stewart "ASCII Printer" (January, 1986) 44
 Shapiro, Stewart "Sanyo BASIC User's Handbook" (March, 1986) 24
 Shapiro, Stewart "Processing Words" (July, 1986) 36
 Shapiro, Stewart "Sanyo Spooler" (July, 1986) 38
 Smart, George M. "Doom-Quest" (August, 1985) 64
 Wexler, David N. "Minute Manual For The Dot Matrix Printer" (September, 1985) 57
 Wexler, David N. "Loan-Master" (December, 1985) 45
 Wexler, David N. "Market Trend Analysis" (May, 1986) 51
 Worthington, Max S. "BASIC Enhanced" (May, 1986) 47
 Yearwood, James G. "SuperBatch" (June, 1986) 41
 Yearwood, James G. "Assembly Language & System Programming" (July, 1986) 37

SIMULATION

Clabuesch, Fred "Stock Market Trader" (January, 1986) 14
 ■ (TRADER.BAS) — Play the market with this simulation.

UTILITIES

Albers, Mike "Sanyo BASIC to PC BASIC Converter" (April, 1986) 10 ■ (LFREMOVE.BAS) — Move your programs to PC BASIC.
 Baker, Dale E. "Master Menu" (June, 1986) 35 ■ (MM.BAS) — Simplifying Sanyo operation.
 Jack, Bob "Mega-DOS" (January, 1986) 10 — Alter DOS to allow memory upgrades.
 Jack, Bob "KeyBusters" (March, 1986) 10 ■ (KBUSTER.BAS KUSTER.ASM KUSTER.COM) — Easy cursor control with CalcStar.
 Kincade, Chuck "Reclaiming Those Lost Files" (August, 1985) 31 ■ (RECLAIM.BAS) — A program to help recover lost files. (Corrections, Sept. '85, P.67)
 Krumholz, Truman "Four Video RAM Board Routines" (November, 1985) 9 — Change screen colors and function keys.
 Krunholz, Truman "Enlarging The Cursor" (August, 1985) 44 ■ (BIGC.COM LITTLEC.COM) — Using DEBUG to modify your cursor.
 Locke, William J. "XREF — Cross-Reference Utility" (October, 1985) 19 ■ (XREF.BAS) — A program to help remember variable names.
 Locke, William J. "XREF Patch" (January, 1986) 46 ■ (XREFPAT.BAS) — Cross-reference control transfers tool
 Martello, Herb "Free The Sanyo 550 — With Spool" (January, 1986) 51 ■ (SPOOL.BAS SPOOL.ASM) — Save time with this handy utility. (Corrections, March '86, P.13)
 Neuendorf, Dave & Patti "Changing Logged Drives Within BASIC" (February, 1986) 50 ■ (TESTDRIV.BAS GSDSAN.YO.BAS) — An enhancement to BASIC Menu.
 Neuendorf, Dave W. "DataMaker" (March, 1986) 15 ■ (HEXDAT.BAS) — A handy conversion utility.
 Neuendorf, David W. "Window Programming" (July, 1986) 41 ■ (MLOAD.BAS WINPUT.BAS WINPUT.BIN)
 Purves, Tim "Changing Your Disk's Volume Label" (November, 1985) 53 ■ (VOLUME.BAS VOLUME.COM) — Change your volume name after formatting.
 Robinson, Ray C. "EasyWriter-To-ASCII Conversion Utility" (August, 1985) 10 ■ (DOC2ASC.BAS) — Convert document files to text files.
 Robinson, Ray C. "BASIC Menu" (October, 1985) 36 ■ (MENU.BAS MENU.ASM MENU-GW.BAS) — Create a menu of BASIC filenames from disk.
 Robinson, Ray C. "CHANGIT" (March, 1986) 50 ■ (CHANGIT.BAS DEMO1.BAS DEMO2.BAS CHANGIT.ASM) — Directional control of your cursor arrow keys.

WORD PROCESSING

Annis, Charles "BlitzStar" (August, 1985) 44 — A video board patch for WordStar.
 Kattan, Joseph "On Customizing WordStar" (August, 1985) 45 — More patches for WordStar.
 White, Bruce A. "Make EasyWriter Even Easier" (May, 1986) 54 — Tips on using your other "editor."

AUTHOR INDEX

"Clubs" (November, 1985) 60
 "Ask Sanyo" (December, 1985) 49

"Ask Sanyo" (February, 1986) 18
 "Ask Sanyo" (March, 1986) 18
 "Clubs" (March, 1986) 54
 "Ask Sanyo" (May, 1986) 34
 "Ask Sanyo" (June, 1986) 19
 "Ask Sanyo" (July, 1986) 35
 Albers, Mike, "Sanyo BASIC to PC BASIC Converter" (April, 1986) 10
 Anderson, Sue, "Design Your Letterhead" (April, 1986) 14
 Annis, Charles, "BlitzStar" (August, 1985) 44
 Baines, Clinton, "Temp-Plates" (July, 1986) 37
 Baines, Clinton, "Viking II" (July, 1986) 40
 Baines, Richard A., "Car Cost" (June, 1986) 55
 Baker, Dale E., "Master Menu" (June, 1986) 35
 Baker, Stephen W., "Dear Word" (October, 1985) 39
 Barry, Ambrose B., "Respond" (April 1986) 25
 Besaw, Gary & Julius Tab., "Othello" (June, 1986) 44
 Billman, Dale J., "Home Loan Interest" (November, 1985) 51
 Blechman, Fred, "BASIC Training" (August, 1985) 22
 Blechman, Fred, "BASIC Training" (September, 1985) 48
 Blechman, Fred, "BASIC Training" (October, 1985) 14
 Blechman, Fred, "BASIC Training" (November, 1985) 11
 Blechman, Fred, "BASIC Training" (December, 1985) 10
 Blechman, Fred, "BASIC Training" (January, 1986) 38
 Blechman, Fred, "BASIC Training" (February, 1986) 24
 Blechman, Fred, "BDL Homework" (February, 1986) 42
 Blechman, Fred, "BASIC Training" (March, 1986) 40
 Blechman, Fred, "BASIC Training" (April, 1986) 17
 Blechman, Fred, "BASIC Training" (May, 1986) 13
 Boutell, Thomas, "The Mad Kingdoms" (July, 1986) 32
 Bowen, Paul M., "Reverse Ellipses" (November, 1985) 51
 Brewster, Pat, "Turtle Racing" (December, 1985) 16
 Bryant, James, "TaxFile" (February, 1986) 10
 Buttenhoff, Ed., "Speeding Up WordStar" (November, 1985) 29
 Champion, Edward, "SanyGraf" (January, 1986) 42
 Champion, Edward, "Bottomline Capitalist" (January, 1986) 44
 Champion, Edward, "Query" (April, 1986) 25
 Champion, Edward, "Macro-Toolkit and ASCII Toolkit" (April, 1986) 26
 Champion, Edward, "PC STAT" (May, 1986) 51
 Champion, Edward, "Opus" (June, 1986) 42
 Chang, Bill, "Prickly-Pear Datapack" (September, 1985) 61
 Chang, Bill, "Oki Font-Do" (September, 1985) 63
 Chang, Bill, "Tax Preparation Software" (February, 1986) 45
 Chang, Bill, "The Great Communicator" (May, 1986) 48
 Chumney, John, "OTC Stock Exchange" (March, 1986) 24
 Clabuesch, Fred, "Stock Market Trader" (January, 1986) 14
 Cochran, William D., "Papers, Mod Art or Chaos?" (May, 1986) 6
 Craig, Robert J., "Hurricane Tracker" (August, 1985) 48
 Craig, Robert J., "Stock Tracker" (June, 1986) 21
 Doeff, Michael, "Peacock" (September, 1985) 25
 Doeff, Michael, "Shell Designs" (January, 1986) 47
 Dorth, Monica, "Astrology" (April, 1986) 24
 Duchon, James C., "Shooting Star" (March, 1986) 6
 Dzomback, Bill, "Switch On The Color" (May, 1986) 36
 Ecker, Michael W., "SanyCad" (October, 1985) 40
 Ecker, Michael W., "MyCalc" (February, 1986) 44
 Ellers, Ed., "VidSwitch550" (August, 1985) 63
 Ellers, Ed., "Soft Soapbox" (May, 1986) 7
 Ellers, Ed., "Soft Soapbox" (June, 1986) 7
 Ellers, Ed., "Soft Soapbox" (July, 1986) 7
 Erickson, Eric, "Pig Latin" (August, 1985) 76
 Falk, Lonnie, "XTREE" (August, 1985) 61
 Falk, Lonnie, "Software Golden Oldies" (September, 1985) 60
 Falk, Lonnie, "Soft Soapbox" (November, 1985) 8
 Falk, Lonnie, "Soft Soapbox" (April, 1986) 7
 Falk, Lonnie, "Chuckie Pops" (May, 1986) 48
 Falk, Lonnie, "SmartNotes" (June, 1986) 39
 Fortin, Yvan, "Slot Machine" (October, 1985) 51
 Frame, Jon P., "Plotting The Picture" (July, 1986) 14
 Freeman, Matthew, "Soft Sector At Large" (August, 1985) 76
 Freeman, Matthew P., "BatBall" (December, 1985) 30
 Glenn, Lawrence, "Staircase" (August, 1985) 76
 Gursel, Yekta, "Snake" (September, 1985) 25
 Hardy, James K., "CardFile" (November, 1985) 22
 Hardy, James K., "Sanyo Screen Dump" (May, 1986) 44
 Hensen, John C., "Rings Of Power" (August, 1985) 26
 Hergert, Don, "Shell" (August, 1985) 26
 Herold, Thom R., "Multi-Graph" (August, 1985) 76
 Heymann, S.E. (Ned), "Postage Meter" (August, 1985) 76
 Holzbauer, Philip, "Printed Directories" (December, 1985) 64
 Horner, Monty, "Voting Machine" (May, 1986) 20
 Humphress, Danny, "Mastering MS-DOS" (August, 1985) 18
 Humphress, Danny, "Mastering MS-DOS" (September, 1985) 40
 Humphress, Danny, "Mastering MS-DOS" (October, 1985) 12
 Humphress, Danny, "Mastering MS-DOS" (November, 1985) 49
 Humphress, Danny, "Mastering MS-DOS" (December, 1985) 52
 Humphress, Danny, "Mastering MS-DOS" (January, 1986) 12
 Hyer, Paul V., "Kaleidoscope" (December, 1985) 13
 Hyre, Leonard, "Land Of The Cave Bear" (September, 1985) 28
 Hyre, Leonard, "Disk Label Maker" (May, 1986) 10
 Izzi, Michael, "DataPlot" (September, 1985) 72

Jack, Bob, "Mega-DOS" (January, 1986) 10
 Jack, Bob, "NEC V20 Chip" (February, 1986) 39
 Jack, Bob, "KeyBusters" (March, 1986) 10
 Jack, Bob, "Piggybacking" (April, 1986) 20
 Kattan, Joseph, "On Customizing WordStar" (August, 1985) 45
 Kerns, Edward, "Calculator Emulator" (November, 1985) 14
 Kerns, Edward, "Adding Leaves To The Family Tree" (December, 1985) 22
 Kerns, Edward, "Quikpro+II" (June, 1986) 43
 Kincade, Chuck, "Reclaiming Those Lost Files" (August, 1985) 31
 Kirby, Belinda, "Soft Soapbox" (September, 1985) 8
 Kirby, Belinda, "Soft Soapbox" (October, 1985) 8
 Kirby, Belinda, "Soft Soapbox" (December, 1985) 8
 Kirby, Belinda, "Soft Soapbox" (January, 1986) 8
 Kirby, Belinda, "Soft Soapbox" (February, 1986) 6
 Kirby, Belinda, "Soft Soapbox" (March, 1986) 7
 Kirby, Belinda C., "The First Year of Soft Sector" (August, 1985) 39
 Krumholz, Truman, "Four Video RAM Board Routines" (November, 1985) 9
 Krunholz, Truman, "Enlarging The Cursor" (August, 1985) 44
 Lane, Greg, "XOR Box" (August, 1985) 26
 Lane, Greg, "Crash" (December, 1985) 56
 Lebron, Felipe, "Mind Jogger" (March, 1986) 28
 Leonardo, Louis, "An Open Letter From Sanyo" (July, 1986) 49
 Lewis, Mitchell, "ASCII Screen Dump For The Sanyo 555" (October, 1985) 56
 Locke, William J., "XREF — Cross-Reference Utility" (October, 1985) 19
 Locke, William J., "XREF Patch" (January, 1986) 46
 Logreco, John N., "Address" (February, 1986) 46
 MacDonald, Bob, "Scripture Memory" (November, 1985) 42
 MacDonald, Bob, "Sanyo Graphic Screen Dump" (December, 1985) 44
 MacDonald, Bob, "Open Access" (January, 1986) 43
 MacKenzie P. & Sorensen, J., "The Development of Life On Your Sanyo" (October, 1985) 28
 MacKenzie, P. & Sorensen, J., "The Better BASIC Bureau" (September, 1985) 10
 Maloney, Skip, "TypeRight" (September, 1985) 56
 Maloney, Skip, "Spell" (November, 1985) 44
 Maloney, Skip, "Fortune Teller" (July, 1986) 38
 Martello, Herb, "Free The Sanyo 550 — With Spool" (January, 1986) 51
 McCoy, Robert E., "Determining Present Value" (September, 1985) 44
 McGrath, Patrick, "Kilobuck Metronome" (September, 1985) 25
 McGuire, Jon, "Sinewaves" (March, 1986) 6
 McGuire, Jon, "Galactic Empire" (April, 1986) 44
 McGuire, Jon, "Artifact" (April, 1986) 60
 McGuire, Mick, "An \$11 Null Modem" (January, 1986) 30
 McGuire, Mick, "Electrical Cost Calculator" (March, 1986) 19
 McGuire, Mick & Jon, "High Resolution Daisy Wheel Graphics" (October, 1985) 44
 Meyer, Larry L., "Checks & Balances" (May, 1986) 49
 Miller, Paul, "Sanyo Synthesizer" (June, 1986) 50
 Milroy, Dick, "Color Combinations" (June, 1986) 54
 Monsefi, Khasy, "Speed" (February, 1986) 46
 Neuendorf, Dave & Patti, "Automating Your Spider Graphics" (September, 1985) 71
 Neuendorf, Dave & Patti, "Changing Logged Drives Within BASIC" (February, 1986) 50
 Neuendorf, Dave W., "DataMaker" (March, 1986) 15
 Neuendorf, David W., "Window Programming" (July, 1986) 41
 Nickols, Kevin, "Soft Soapbox" (August, 1985) 8
 Nickols, Kevin, "Delphi Bureau" (January, 1986) 61
 Nickols, Kevin, "Delphi Bureau" (February, 1986) 49
 Nickols, Kevin, "Delphi Bureau" (April, 1986) 6
 Nickols, Kevin, "Delphi Bureau" (May, 1986) 43
 Nickols, Kevin, "Delphi Bureau" (June, 1986) 57
 Nickols, Kevin, "Delphi Bureau" (July, 1986) 56
 Nieberding, Bill, "Medical Records" (April, 1986) 36
 Norby, Matt, "DODGEM" (November, 1985) 51
 Orlando, John III, "Power Supply Upgrade" (October, 1985) 10
 Pentecost, Allan, "Resistor" (December, 1985) 64
 Pike, Kevin, "Bubble Blowing Contest" (March, 1986) 39
 Pike, Kevin, "3-D With COS and SIN" (April, 1986) 60
 Pile, Jim, "ABAS" (August, 1985) 63
 Pile, Jim, "Disk Catalog System" (November, 1985) 41
 Pile, Jim, "FastStar" (November, 1985) 43
 Pile, Jim, "Atlas" (December, 1985) 41
 Pile, Jim, "CoForth" (January, 1986) 41
 Pile, Jim, "The MBC-675 — Sanyo's New Transportable" (February, 1986) 36
 Pile, Jim, "A Desktop Delight — The MBC-885" (March, 1986) 36
 Pile, Jim, "ProDesign II" (March, 1986) 25
 Pile, Jim, "Sanyo ECR-360" (March, 1986) 26
 Pile, Jim, "Thoroughbred Handicapper" (April, 1986) 23
 Pile, Jim, "Media Master" (June, 1986) 39
 Pile, Jim, "Macro Track" (June, 1986) 40
 Pile, Jim, "Turbo Lightning" (July, 1986) 36
 Plaut, Mordecai, "The Basics of a BASIC Terminal Program" (March, 1986) 43

Purcell, Jeff, "Refer" (January, 1986) 41
Purcell, Jeff, "Envoy" (March, 1986) 23
Purves, Tim, "Input/Output" (August, 1985) 76
Purves, Tim, "Input/Output" (September, 1985) 23
Purves, Tim, "Input/Output" (October, 1985) 17
Purves, Tim, "Changing Your Disk's Volume Label" (November, 1985) 53
Purves, Tim, "Input/Output" (November, 1985) 34
Purves, Tim, "Input/Output" (December, 1985) 54
Purves, Tim, "Input/Output" (January, 1986) 49
Purves, Tim, "Input/Output" (February, 1986) 33
Quante, Charles A., "Finger Paints" (February, 1986) 20
Quinnell, Kyle C., "Blue Star" (October, 1985) 51
Raymond, Dave, "Flash" (December, 1985) 64
Richmond, Raymond, "Psychedelic Sunrise" (November, 1985) 51
Richmond, Raymond, "Biorhythms" (May, 1986) 28
Robinet, Stephen, "WordPerfect 4.0" (September, 1985) 64
Robinson, Ray C., "EasyWriter-To-ASCII Conversion Utility" (August, 1985) 10
Robinson, Ray C., "BASIC Menu" (October, 1985) 36
Robinson, Ray C., "CHANGIT" (March, 1986) 50
Robinson, Ray C., "DRAWS" (April, 1986) 28
Sanders, Richard, "BatLook" (February, 1986) 46
Schlosser, John E., "Smart Key II Plus" (August, 1985) 60
Schlosser, John E., "Fancy Font" (October, 1985) 42
Schlosser, John E., "Turbo Drive 550" (December, 1985) 41
Selig, Paul Jr., "Disk Label Plus" (August, 1985) 69
Shapiro, Stewart, "Forbidden Temple" (October, 1985) 39
Shapiro, Stewart, "Turbo Toolkit" (November, 1985) 41
Shapiro, Stewart, "MyChess" (December, 1985) 43
Shapiro, Stewart, "More Acclaim For Reclaim" (January, 1986) 64
Shapiro, Stewart, "ASCII Printer" (January, 1986) 44
Shapiro, Stewart, "Sanyo BASIC User's Handbook" (March, 1986) 24
Shapiro, Stewart, "Processing Words" (July, 1986) 36
Shapiro, Stewart, "Sanyo Spooler" (July, 1986) 38
Sipler, Wayne R., "Envelope Addresser" (November, 1985) 37
Sites, Chuck, "Build An Atari Joystick Interface" (August, 1985) 72
Smart, George M., "Doom-Quest" (August, 1985) 64
Smart, George M., "Starting From Johnson's Rule" (January, 1986) 22
Smith, Chuck Jr., "Diagonal" (September, 1985) 25
Smith, Ron, "TinyCAD" (June, 1986) 10
Stone, Charlotte & Brian, "Business Sector" (August, 1985) 12
Stone, Charlotte & Brian, "Business Sector" (September, 1985) 69
Stone, Charlotte & Brian, "Business Sector" (October, 1985) 52
Stone, Charlotte & Brian, "Business Sector" (November, 1985) 62
Stone, Charlotte & Brian, "Business Sector" (December, 1985) 62
Stone, Charlotte & Brian, "Business Sector" (January, 1986) 62
Stone, Charlotte & Brian, "Business Sector" (February, 1986) 54
Stone, Charlotte & Brian, "Business Sector" (March, 1986) 56
Stone, Charlotte & Brian, "Business Sector" (April, 1986) 56
Stone, Charlotte & Brian, "Business Sector" (May, 1986) 57
Stone, Charlotte & Brian, "Business Sector" (June, 1986) 58
Stone, Charlotte & Brian, "Business Sector" (July, 1986) 57
Tevonian, Ron, "Monitor Compatibility & Vertical Interlace" (September, 1985) 52
Torres, John R., "Solar" (January, 1986) 47
Vandermeersch, John S., "Memo Writer" (February, 1986) 28
Viessman, Rodney, "Spirals" (March, 1986) 39
Walker, Matthew, "Outline Gives Eye-Catching Results" (May, 1986) 43
Webber, Dan, "Quiz Master" (November, 1985) 30
Wexler, David N., "Minute Manual For The Dot Matrix Printer" (September, 1985) 57
Wexler, David N., "Loan-Master" (December, 1985) 45
Wexler, David N., "Market Trend Analysis" (May, 1986) 51
White, Bruce A., "Conversion Charts" (November, 1985) 36
White, Bruce A., "A Character Reference" (January, 1986) 45
White, Bruce A., "Make EasyWriter Even Easier" (May, 1986) 54
Wickline, Gregory G., "Po' Folks Printer Control" (July, 1986) 50
Willert, Gary, "The Permutable Puzzler" (December, 1985) 38
Williams, Dick, "Golf Log" (July, 1986) 10
Worthington, Max S., "BASIC Enhanced" (May, 1986) 47
Yearwood, James G., "SuperBatch" (June, 1986) 41
Yearwood, James G., "Assembly Language & System Programming" (July, 1986) 37
Zeiger, Mark, "Bug Report!" (December, 1985) 60

PRODUCT REVIEWS

"A Desktop Delight — The MBC-885" (March, 1986) 36
"ABAS" (August, 1985) 63
"ASCII Printer" (January, 1986) 44

"Assembly Language & System Programming" (July, 1986) 37
"Astrology" (April, 1986) 24
"Atlas" (December, 1985) 41
"BASIC Enhanced" (May, 1986) 47
"BDL Homeware" (February, 1986) 42
"Bottomline Capitalist" (January, 1986) 44
"Checks & Balances" (May, 1986) 49
"Chuck's Pops" (May, 1986) 48
"CoForth" (January, 1986) 41
"Dear Word" (October, 1985) 39
"Disk Catalog System" (November, 1985) 41
"Doom-Quest" (August, 1985) 64
"Envoy" (March, 1986) 23
"Fancy Font" (October, 1985) 42
"FastStar" (November, 1985) 43
"Forbidden Temple" (October, 1985) 39
"Fortune Teller" (July, 1986) 38
"Loan-Master" (December, 1985) 45
"Macro Track" (June, 1986) 40
"Macro-Toolkit and ASCII Toolkit" (April, 1986) 26
"Market Trend Analysis" (May, 1986) 51
"Media Master" (June, 1986) 39
"Minute Manual For The Dot Matrix Printer" (September, 1985) 57
"MyCalc" (February, 1986) 44
"MyChess" (December, 1985) 43
"NEC V20 Chip" (February, 1986) 39
"Ok! Font-Do" (September, 1985) 63
"Open Access" (January, 1986) 43
"Opus" (June, 1986) 42
"OTC Stock Exchange" (March, 1986) 24
"PC STAT" (May, 1986) 51
"Prickly-Pear Datapack" (September, 1985) 61
"Processing Words" (July, 1986) 36
"ProDesign II" (March, 1986) 25
"Query" (April, 1986) 25
"Quikpro-II" (June, 1986) 43
"Refer" (January, 1986) 41
"Respond" (April, 1986) 25
"SanyoCad" (October, 1985) 40
"SanyoGraf" (January, 1986) 42
"Sanyo BASIC User's Handbook" (March, 1986) 24
"Sanyo ECR-360" (March, 1986) 26
"Sanyo Graphic Screen Dump" (December, 1985) 44
"Sanyo Spooler" (July, 1986) 38
"Scripture Memory" (November, 1985) 42
"Smart Key II Plus" (August, 1985) 60
"SmartNotes" (June, 1986) 39
"Software Golden Oldies" (September, 1985) 60
"Spell" (November, 1985) 44
"SuperBatch" (June, 1986) 41
"Tax Preparation Software" (February, 1986) 45
"Temp-Plates" (July, 1986) 37
"The Great Communicator" (May, 1986) 48
"The MBC-675 — Sanyo's New Transportable" (February, 1986) 36
"Thoroughbred Handicapper" (April, 1986) 23
"Turbo Drive 550" (December, 1985) 41
"Turbo Lightning" (July, 1986) 36
"Turbo Toolkit" (November, 1985) 41
"TypeRight" (September, 1985) 56
"VidSwitch550" (August, 1985) 63
"Viking II" (July, 1986) 40
"WordPerfect 4.0" (September, 1985) 64
"XTREE" (August, 1985) 61

SOFT SECTOR ON DISK

ASCII-SD.BAS ASCII-SD.ASM ASCII-SD.COM (October, 1985) 56 —A money-saving screen dump program.
ATARI-1.BAS ATARI-2.BAS (August, 1985) 72 —Build your own joystick interface.
BATBALL.BAS (December, 1985) 30 —A good action and graphics game.
BEAR.BAS GWMOD.BAS (September, 1985) 28 —An Adventure back into time.
BIGC.COM LITTLE.COM (August, 1985) 44 —Using DEBUG to modify your cursor.
BIOGRAF.BAS (December, 1985) 10 —Charting your biorhythms.
BIORYTHM.BAS (May, 1986) 28 —Plot life's ups and downs.
BT-1.BAS BT-2.BAS BT-3.BAS BT-4.BAS (August, 1985) 22 —Graphics in Sanyo BASIC.
BTERM.BAS STERM.BAS (March, 1986) 43 —A simple terminal program.
CAL.BAS (November, 1985) 14 —A desktop calculator for your Sanyo.
CARCOST.BAS (June, 1986) 55 —Automotive economics.
CARDFILE.BAS (November, 1985) 22 —A BASIC file program to get you organized.
CHANGIT.BAS DEMO1.BAS DEMO2.BAS CHANGIT.ASM (March, 1986) 50 —Directional control of your cursor arrow keys.
CHRTPLAN.JPF MAINWORK.JPF DATWORKS.JPF BAR WORKS.JPF (July, 1986) 14 —Full-color business graphics.
CRASH.BAS (December, 1985) 56 —Work your way down the winding road.
DATAPLOT.BAS (September, 1985) 72 —Graphically analyze your data.

DISKLABL.BAS (May, 1986) 10 —Keep your disks more organized.
DOC2ASC.BAS (August, 1985) 10 —Convert document files to text files.
DOGLETHD.BAS (April, 1986) 14 —Graphics for your letters.
DRAW\$.BAS (April, 1986) 28 —A new graphics command for Sanyo BASIC.
DSKLABL.BAS (August, 1985) 69 —Create your own disk labels.
EMPIRE.BAS (April, 1986) 44 —Battle management on a grand scale.
ENERGY.BAS (March, 1986) 19 —Conduct your own home energy audit.
ENVELOPE.BAS (November, 1985) 37 —Produce neatly typed envelopes.
FAMILY.BAS (December, 1985) 22 —Trace your roots with this handy program.
GOLFLOG.BAS (July, 1986) 10 —A recreational secretary.
HEXDAT.BAS (March, 1986) 15 —A handy conversion utility.
INSTALL.BAS MUSIC.BAS SND-PLAY.ASM (September, 1985) 10 —Institute two of Sanyo BASIC's missing keywords.
KAL08.BAS KAL12.BAS (December, 1985) 13 —Enjoy your own kaleidoscope drawings.
KBUSTER.BAS KBUSTER.ASM KBUSTER.COM (March, 1986) 10 —Easy cursor control with CalcStar.
KINGDOM.BAS (July, 1986) 32 —War games with a medieval bent.
LEDGER24.BAS (May, 1986) 13 —A 24-column ledger program.
LFREMOVE.BAS (April, 1986) 10 —Move your programs to PC BASIC.
LIFE.BAS LIFE.ASM (October, 1985) 28 —An ages-old mathematical game.
LIST-1.BAS LIST-2.BAS (September, 1985) 48 —Continuing our lesson on Sanyo BASIC's graphics.
LIST-1.BAS LIST-2.BAS (October, 1985) 14 —Part III on Color and Graphics.
MED.BAS (April, 1986) 36 —Keep track of medical bills and prescriptions.
MEMOWRTR.BAS (February, 1986) 28 —A simple program to help produce memos.
MENU.BAS MENU.ASM MENU-GW.BAS (October, 1985) 36 —Create a menu of BASIC filenames from disk.
MIND-JOG.BAS (March, 1986) 28 —Keep your "laundry" list up-to-date.
MLLOADER.BAS WINPUT.BAS WINPUT.BIN (July, 1986) 41 —A new user interface for GW-BASIC.
MM.BAS (June, 1986) 35 —Simplifying Sanyo operation.
OTHELLO.BAS (June, 1986) 44 —Graphics gamesmanship.
PAINTER.BAS (February, 1986) 20 —A colorful graphics program that's fun.
PRESVALU.BAS (September, 1985) 44 —Learn to invest for future returns.
PRNCTRL.BAT (July, 1986) 50 —Set printing mode from a batch file.
PUZZLER.BAS (December, 1985) 38 —A digital diversion for the hacker.
QUIZ.BAS (November, 1985) 30 —An educational program for you and your kids.
RACE.BAS (December, 1985) 16 —Bet on a sure winner with this entertaining game.
RECLAIM.BAS (August, 1985) 31 —A program to help recover lost files.
SANCOLOR.BAS (May, 1986) 36 —COLOR commands for monochrome monitors.
SANYOSYN.BAS LISTING2.BAS COMPILER.BAS LISTING4.BAS (June, 1986) 50 —A more musical Sanyo 555.
SCHEDULE.BAS (January, 1986) 22 —Project scheduling to obtain efficiency.
SCRNDUMP.BAS (May, 1986) 44 —Unload your graphics displays.
SPIDERM.BAS (September, 1985) 71 —Automatically merge and run spider routines.
SPOOL.BAS SPOOL.ASM (January, 1986) 51 —Save time with this handy utility.
STARDUMP.BAS GRAPHICS.BAS (October, 1985) 44 —Quality screen dumps on a daisy wheel.
TAXFILE.MAR TAXFILE.SNG FEDTAX.BAS (February, 1986) 10 —Advance tax planning on your Sanyo.
TESTDRIV.BAS GSDSANYO.BAS (February, 1986) 50 —An enhancement to BASIC Menu.
TINYCAD.BAS (June, 1986) 10 —Computer-assisted drafting.
TRACKER.BAS (August, 1985) 48 —Keep track of tropical storm developments.
TRADER.BAS (January, 1986) 14 —Play the market with this simulation.
UPLOAD.BAS DOWNLOAD.BAS M-100.BAS CONNECT.BAS (January, 1986) 30 —Build your own null modem.
VOLUME.BAS VOLUME.COM (November, 1985) 53 —Change your volume name after formatting.
VOTEMACH.BAS (May, 1986) 20 —Tally the totals on your Sanyo.
XREF.BAS (October, 1985) 19 —A program to help remember variable names.
XREFPAT.BAS (January, 1986) 46 —Cross-reference control transfers too!



The following products recently have been received by SOFT SECTOR, examined by our magazine staff and approved for the *Soft Sector Seal of Certification*, your assurance that we have seen the product and have ascertained that it is what it purports to be.

EXACT is a program that creates expression and character typography for the mathematical sciences. It works with your word processing program to translate word processed text into graphic images and then sends them to the screen or printer.

EXACT allows you to use your word processor to create, edit and save documents in the usual way and include *EXACT* commands as part of the normal text. You can see the text as it will appear after typesetting — without exiting your word processing system.

EXACT requires MS-DOS 2.11 and is currently available for \$475 (academic discounts are available) from Technical Support Software, Inc., 72 Kent Street, Brookline, MA 02146; (617) 734-4130.

IT FIGURES 1.1, an electronic worksheet, contains built-in math functions and over 50 templates. This personal productivity program requires no formatting or prior computing experience. It also contains built-in help screens, onscreen command prompts, line editing features and easy to change variables.

It Figures can be used for scientific and engineering applications, real estate, banking, executive and general management, investment, forecasting, "what-if" calculations and simple accounting.

It Figures is currently available for \$39.95 from SimplSoft Products, Inc., 5330 Sterling Drive, Suite C, Boulder, CO 80301; (303) 444-8772.

SECOND SCREEN DRIVER is a program that provides the basic resident

software necessary to drive a second monitor connected to the original Sanyo video jack while running the system under the Video RAM Board version of MS-DOS.

The system can be installed and viewed with only one monitor and a switch box to alternate from the video board to the Sanyo display, but to fully appreciate the possibilities, a second monitor is necessary. A second monitor is useful when writing programs that will make full use of the functions provided in the resident part of *Second Screen Driver* or with existing programs, redirecting the output from the printer to the second screen.

Second Screen Driver requires 256K and a Video RAM Board. It is currently available for \$30 from Alberto Pasquale, 4125 Woodcraft, Houston, TX 77025; (713) 667-4920.

BASIC MINI-GAMES is a series of programs designed from an ease-of-use standpoint. The 601 & 602 series is a set of two disks with 10 games on each. All games are in unprotected BASIC to provide models of BASIC programming. This was done to allow fledgling programmers to get ideas for their own programming by using these games as learning tools.

BASIC Mini-Games 601 & 602 are currently available for \$12.95 each from MVP Software, 1035 Dallas SE, Grand Rapids, MI 49507; (616) 245-8376.

THE SMART SET is a combination of three educational programs: *Learning Letters*, *Wombats* and *Mind Builders*. Each is designed to be used with or without parental assistance. These programs are meant to encourage and reward success and to remedy failure.

Learning Letters teaches recognition of the letters of the alphabet, early reading and word recognition skills. It is intended for 2-year-old children through kindergarten and familiarizes them with the computer and keyboard layout. *Wombats* constructs word problems that require use of basic math skills. *Mind Builders* helps teach how to tell time, contains a math tutorial and a spelling tutor.

The Smart Set is currently available for \$39.95 from MVP Software, 1035 Dallas SE, Grand Rapids, MI 49507; (616) 245-8376.

TURBO PROLOG is a fifth-generation computer language that takes a logical

approach to programming, allowing both novice and expert programmer alike to build powerful applications such as expert systems, customized knowledge bases, natural language interfaces and smart information management systems.

Turbo Prolog is a declarative language which means that, given the necessary facts and rules, it can use deductive reasoning to solve programming problems.

Turbo Prolog requires a minimum of 384K, DOS 2.11 and an MBC-675, 775 or 885. It is currently available for \$99.95 from Borland International, 4585 Scotts Valley Drive, Scotts Valley, CA 95066; (800) 255-8008.

THE NORTON COMMANDER is a time-saving, power user's control program. It uses the "point and shoot" method to perform basic computer operations quickly; allows instant execution of programs and data; can display one or two disk directories simultaneously and list files by name, extension, time or size; allows you to add user menus; contains pop-up windows; and has full mouse control.

The Norton Commander requires DOS 2.11 and an MBC-675, 775, 885 or 995. It is currently available for \$75 from Peter Norton Computing, Inc., 2210 Wilshire Boulevard #186, Santa Monica, CA 90403; (213) 453-2361.

SUPERCROSS/XT is a transfer utility that allows you to transfer BASIC programs from your TRS-80 Model I/III to an MS-DOS, CP/M or TRS-80 Model 4 computer. It reads a file with BASIC keywords stored as tokens and produces an ASCII file with spaces inserted.

SuperCross/XT is currently available for \$99.95 from Powersoft, 17060 Dallas Pkwy., Suite 114, Dallas, TX 75248; (214) 733-4475.

The *Seal of Certification* program is open to all manufacturers of products for Sanyo MBC-550/555, 675, 775 and 885 computers, regardless of whether they advertise in *SOFT SECTOR*.

By awarding a *Seal*, the magazine certifies the product does exist — that we have examined it and have a sample copy — but this *does not* constitute any guarantee of satisfaction. As soon as possible, these hardware or software items will be forwarded to *SOFT SECTOR* reviewers for evaluation.



BUSINESS Sector



CHARLOTTE & BRIAN STONE
Soft Sector Contributing Editors

Q. I am hoping you can help me with a problem which has been plaguing me for over a year. I seem to have discovered a bug in the Sanyo MBC-555 version of MailMerge. For some reason, while merging a data file with a text file, the program will work correctly about 25 or 30 times. The program will then, however, continue printing the text file but leaves blanks where the data should be.

I know it is not a problem with the data file because I can print mailing labels ad nauseam, and I have used the same text and data files on my machine with an IBM PC version of WordStar and they work perfectly. It appears to be a function of text file length because the shorter the text file, the longer the program will go before failure.

I have tried this with four different Sanyos with four different Sanyo versions of DOS and WordStar with the same results. I know it is not a problem with the printer because I get the same results by printing to a disk file or the screen. (Note: You can save paper during these tests by writing to a "disk file" called CON.)

I have tried an IBM version of WordStar and there is no problem, so I am certain the problem is with the Sanyo version of the program. The local Sanyo representative agrees with me but has not been able to provide a solution. If you have any suggestions I would dearly love to hear them.

W. Paul Erickson
Richmond, British Columbia

A. I do not know why WordStar and MailMerge are giving you a problem merging data files with text in the Sanyo version and not in the IBM version. I can think of two possible reasons; there was either a change made to the program code by Sanyo before it was put on the distribution disk or there are differences in the operating system that are causing the problem.

I would suggest that you write to Mr. Mark Zeiger at Sanyo in Moonachie, N.J. and ask him if he is aware of the problem and has a solution. Mark is very knowl-

edgeable and may know of the problem or a fix.

Q. Can anyone tell me how to prevent WordStar from ejecting the paper after printing a file? Someone has told WordStar to do it, so I think it must be possible to tell it not to.

I have a Brother HR-15 printer, which I feed with loose sheets. After WordStar has ejected the paper, I have to eject again manually, else when I come to feed in the next sheet the printer is at the wrong stage of its cycle and the paper screws up around the baler. Thus, I waste time ejecting every sheet twice.

CalcStar does not eject the paper after printing, which would be nice if it did not make things confusing. FormGen and Redit, after telling you to ready the printer, eject the paper before printing, which really does not help at all!

Tony Bomford
Canberra, Australia

A. I will not guarantee that this is the correct answer, but it is the most likely one. If you will look at the printer deinitialization sequence with the WordStar Install program, you will probably find that it ends with the Hex character 0C. This is the Hex code for a form feed. If you reinstall a test copy of WordStar and delete this code, you will probably solve the problem.

If this does not work, send me a disk with a working copy as it is now and I will look at it. Also, include some sample files that cause the problem.

Q. Twice in *SOFT SECTOR* (Sept./Nov., '85), you have mentioned use of phantom character embedded codes in WordStar to send other commands to the printer. Two more commands would be very helpful. I expected that someone would write to you before this, but apparently nobody has.

I conclude either that you have not personally tried this, or that it is applicable only to daisy wheel printers. I have an Okidata 92 dot-matrix printer.

First, the WordStar commands for phantom character and phantom rubout are ^PF and ^PG, respectively, not ^PM. The section heading for these commands is 'M' in the Install program. Second, if ^PM is inserted in the middle of a sentence, it causes the second half of the sentence to overprint the first half. Third, when WS.COM is installed for a standard printer or the Okidata, it makes no difference what printer codes are put in for ^PF and ^PG or if, indeed, any codes are entered at all. ^PF and ^PG send ASCII codes 6 and 7F (Hex), respectively, under all conditions.

To try to find out something about daisy wheel printers, I set up WS.COM from the Install menu for four daisy wheel printers. In each case, printer codes for condensed and wide printing were entered for ^PF and ^PG. Unfortunately, most installations caused the Okidata printer to scroll the paper up uncontrollably. However, WS.COM set up for the NEC Spinwriter 3550 did act normally and the commands for ^PF and ^PG were obeyed. Of course, the printing itself was gibberish.

I do not plan to do anything further on this now, but would appreciate any comments you might have.

Perrin G. Smith
Chester Springs, Pa.

A. It seems that I may have misinformed our readers by telling them to use the ^PF and ^PG Phantom Space and Phantom Rubout patch areas for additional patching with WordStar. There should be no reason why this will not work, but after getting your letter and trying it there seems to be something wrong. As yet, I have not had the time to look at it more closely.

If I find any worthwhile information on this subject, I will print the information in the column as soon as it is available. I hope you have more success in installing your Okidata 92 printer. Possibly some of

our readers have more information that they would be willing to share.

Q. I own an Olympia Electronic Compact NP printer. I have had little success with getting it to do more than regular printing from WordStar (BASIC is no problem). Any suggestions about installing this printer? I might also suggest that many readers like myself, who are basically users and have little formal programming experience, might be interested in an article(s) that translate printer manuals into easily comprehended English.

Dr. Clifford Smith
New Westminster, British Columbia

A. I have had a number of people write about using the Olympia Electronic Compact NP printer. Up to this point no one has sent enough of the manual for me to be able to determine a correct setup for this unit. If you will copy the complete manual and send it to me, I will try to help you.

I agree with your comments about translating printer manuals into English. The only problem is that the format of most printer manuals is not consistent enough to allow a one-size-fits-all type of translation.

Q. I bought my Sanyo 555 about two years ago and at the same time, an Okidata Microline 92 printer. About three or four months ago, I bought the Sanyo Software Package, consisting of EasyWriter II, EasyMailer II, EasyPlanner and EasyFiler. It was not installed for the Okidata 92. The dealer referred me to Okidata for the proper installation in-

structions, and they sent me those for the IBM computer with the Oki 92. They didn't work. I then tried IUS, who sent me altogether different responses to the "install" forms and they didn't work either. The codes didn't even resemble those in the Okidata Owner's Manual.

In the EasyWriter II system, every other line prints backwards, regardless of which instructions I use. With EasyPlanner (the only other software package I tried), the printout seems normal for "Standard Print Font," but when underline, double-strike or boldface are called out, it prints two characters per line, vertically along the left margin.

I've exhausted my resources. Can you help me by providing the correct "installation" responses for the various systems produced by Sanyo? I would truly appreciate it!

Roy H. Bleikamp
Woodinville, Wash.

A. The best way to start installing the Easy-Pack software for your Okidata Microline 92 printer would be as a standard printer. The reason you are getting text printed backwards on every other line is because both the printer and the software are trying to print from right to left on the carriage return.

For underline, double-strike and boldface, you will have to get the information from your printer manual and insert it per the EasyWriter II instructions. From your description, you have installed the codes incorrectly and they are causing your problem. Carefully read a code that functions correctly in the software and compare that with your manual for the same code. This will help you understand how to insert codes that you would like to use.

Q. I need some help installing my printer on WordStar. I have tried various listed printers and various combinations of custom codes, but cannot find the right combination to make my printer superscript, subscript, etc. My printer is a BMC-BX-80 which I have installed as an Epson MX-80/100 without Graftrax (Choice 1).

Aubrey B. Sloan
Santa Maria, Calif.

A. You and many others are caught in the dot-matrix printer Catch-22. Most of the dot-matrix printers (your BMC-BX-80 included) on the market today will not support all of WordStar's functions. The printers are just not sophisticated enough.

The copy of PRINT.TST you sent shows that your printer will give you respectable results for almost anything you would like to do. These printers will not do variable-width character spacing, nor will they do variable-line height as is evident in your printout. There is no way around this other than to purchase one of the newer 24-wire printhead printers which are now becoming available at reasonable prices. The Brother 1024L (wide-carriage, 24-wire head dot-matrix printer), is an excellent printer which supports the full Diablo 630 code set, as well as the newer Epson dot-matrix code sets. I use one of these every day and it will do everything WordStar will do and more.

I realize that this does not fix your printer or its capabilities, but it is the only possible answer.

Q. When I use the 'P' (PRINT) function from the opening menu of WordStar, the left margin changes and moves over further to the left one or two columns as

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it prints down the page. This also happens when I print out anything using the MailMerge program. Consequently, I've never been able to use MailMerge or use the 'P' function for printing anything. The only way I can get anything to print is to use the ^KP after saving. Any ideas as to how to repair? I've enclosed a copy of WordStar and MailMerge. I use a 1640 Diablo letter-quality printer, and the software has been configured for a Diablo 1610-1620.

I read a review in *SOFT SECTOR* a few months ago and bought WordPerfect. I use MichTron's DS-DOS Plus, but for some reason it won't copy the WordPerfect software to make working disks. Any ideas?

Baxter Perry
Los Angeles, Calif.

A. I worked with the copy of WordStar that you sent on disk and there is something wrong with it. I did not even have to try printing with it. The screen does not clear as it should at the main menu or when you enter a text file. Have you modified WordStar with any of the programs that have been in *SOFT SECTOR*?

I would suggest that you try starting over with a new copy of the master disk. This will give you a reference point to determine what could be wrong. Start with a completely new copy of everything. Install WordStar for a standard printer; this will work with your Diablo. Try printing the file PRINT.TST from the master disk and see what happens. Most of the functions should work. Then reinstall WordStar for each of the Diablo options to see which works best with the file PRINT.TST and leave it like that. I think that somewhere along the line the code got messed up, and that is your problem. Please let me know what happens.

As for not being able to copy WordPerfect, I believe that it is copy protected and most DOS copy functions will not copy it.

Q. I would like to know if CorrectStar will work with the WordStar package that I got with my Sanyo 555. I have installed a copy of CorrectStar with WordStar, and after entering the filename to be checked, I get an "Interrupt Trap Halt" thus having to reboot. Is there anything I can do?

Cris Larson
Oxford, Ohio

A. The following is the way to fix CorrectStar to run on the Sanyo MBC-555-2 series computers:

1. Put the file DEBUG.COM on the same disk with CORRSTAR.OVR. Always work with a backup copy; never the original!

2. Type DEBUG CORRSTAR.OVR and press ENTER.
3. You will now have the DEBUG Prompt '- '.
4. Type E3C0 and press ENTER.
5. The screen will show XXXX:03C0 C0.-.
6. Type 90 and press ENTER.
7. The prompt '- ' will return.
8. Type W and press ENTER.
9. This will write the new CORRSTAR.OVR file to disk.
10. The prompt '- ' will return.
11. Type Q and press ENTER.

You are now back to DOS with CorrectStar that will function on the MBC-555-2 series computers.

Q. I have been trying to interface an MBC-555 with a phototypesetter, the Execuwriter II made by Compugraphic. I found a commercial interface system (card and software) that was originally meant to link up an IBM PC with a Compuwriter II typesetter. Testing showed that the same interface worked with the Execuwriter. We've modified the software from IBM BASIC to Sanyo BASIC and developed it to suit our purposes. We also customized the interface cable which linked the typesetter originally with the IBM's DB-25 Parallel interface connector to the Sanyo's 36-pin Centronics. To make a long story short, we finally got the thing to work, but we have a glitch that is mysterious and a major pain.

The problem is this: Occasionally, and quite at random, we lose parts of, or sometimes even a whole line of text on the typesetter; only the carriage return is certain to be kept. What appears to be happening is that the text gets transmitted from the computer, but in the middle of transmission of a line, certain codes get received by the typesetter which are equivalent to a series of Cancel Characters (a key on the typesetter). Those who manufactured the interface say that they never encountered such a problem with the IBM PC.

We are wondering if the problem is in the Sanyo's parallel port. I have heard of others who've had problems with certain printers connected to the Sanyo. A friend had a Smith Corona printer which repeated characters at random. I have read in *SOFT SECTOR* of others with similar problems, and general discussion about false discharges on certain pins of the parallel port. I want to find out if there is any description of what this problem is so that I can check this angle out.

Dennis Roy
Detroit, Mich.

A. There is a very good possibility that the MBC-555's parallel printer port is causing your problem. I would suggest

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trying to send files to a dot-matrix printer to see if they occasionally have characters that do not belong in the file. This will help you determine where the problem lies. If this happens, the best thing to do is to send the computer back to Sanyo in New Jersey for repairs. Sanyo has a very good repair department and will be able to fix it faster and better than anyone else.

The biggest problem with the printer port was with the chokes that were used on the output. They would go bad and sometimes produce spikes on the lines which would cause unexpected characters to be printed.

Q. I have a Gemini-10X printer and would like to install WordStar to take advantage of compressed and double-height/double-width letters. Could you tell me the printer codes to use when installing WordStar and also where these codes are listed?

Jim Schmitz
Linn, Mo.

A. The codes to make your printer do compressed and double-wide characters are listed in the manual under "Function Code Summary." I do not know of a code to print double height. If you follow the instructions printed previously and insert the following codes, you will be able to

print compressed and double-wide characters. The information is from a copy of the Gemini-10X manual sent in by another reader, and is assumed to be the same as yours.

Use the custom installation portion of the WordStar Install program and insert these codes:

Function	Code In Decimal
Compressed	ON 15 143
Compressed	OFF 18 146
Double Wide	ON 14 142
Double Wide	OFF 20 148

I hope this information works on your printer, as you did not send a copy of your manual.

Q. Being a student, I have to be very economical in my purchases. I made the right choice when it came to the purchase of my Sanyo MBC-550. But I am beginning to wonder about my choice of printers. I thought it would be a good idea to buy a Brother Correctronic 50, which is a typewriter that will interface with a computer via a unit also produced by Brother, the IF-50.

At first, everything was fine. Then, as I began to learn more about WordStar, I wanted to use the boldface and underlin-

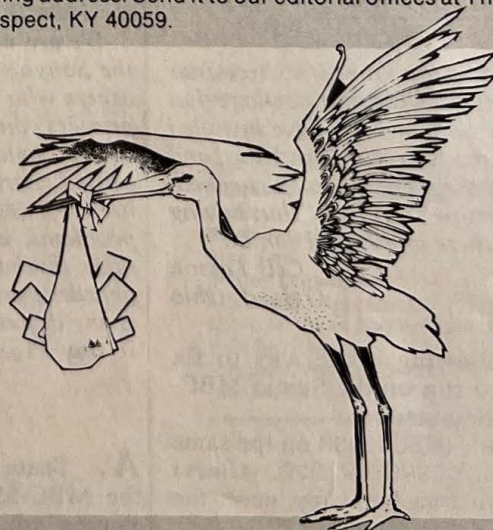
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ing features that are a part of the word processing program. I soon found that the printer would do strange things.

If either feature is used, I get a carriage return at the end of the line and it prints out the underline or second and third stamp in the case of boldfacing.

I have tried to use the Install program using the custom install selection but I cannot seem to come up with the right combination to get it to work.

Cal Banyan
Grand Forks, N.D.

Q. I am using my Correctronic 50 typewriter with a Sanyo computer connected through an IF-50 interface. I have attempted to use EasyWriter installed with Alternative 32 — Diablo 630. When I use this alternative, I am able to print underlining, subscripts and superscripts, but when I start to use the printer, the system first prints an uppercase letter 'I' in the top left-hand corner of the paper before typing the text. In addition, when it is printing the text, it ignores the spaces inserted by the program to justify the right margin. When I use the "Standard Printer" with EasyWriter and attempt to underline, I get a line feed between the text and the underline. I do not use WordStar

very much as I am not a touch typist and EasyWriter is much more suitable.

Tom Heywood
Glendale, Calif.

A. The 'I' at the top of your letter is the result of incorrect initialization of the printer. The 'I' is left over after the software does the initialization sequence and the printer thinks it is supposed to print it.

From what I see in the small portion of the manual you have sent, you will not be able to do boldface, double-strike, underlining or any of the functions which require a second pass by the printer. The reason being, the printer will automatically do a line feed with a carriage return. This line feed on some printers is not a problem, but yours has no means to eliminate it. Possibly, if I had a copy of the whole manual, there might be information to correct your problem. At present I do not have enough information.

Q. I have a Silver-Reed 500 printer. The operator's manual is practically useless to anyone except, perhaps, a technician. I cannot get it to boldface,

underline or double-strike when I use EasyWriter I. The SR500 states in the information it does print that it is the equivalent to the Diablo 1610.

I do find that studying this marvelous invention has stimulated this 78-year-old man's brain beyond the daily crossword puzzle. I will soon have a modem online and will try to find out what is out there in the "real world."

R. L. Roy
Berryville, Ark.

A. Please see Appendix B, Page 11 of the EasyWriter I manual for the information on how to get boldface and underline from unsupported printers.

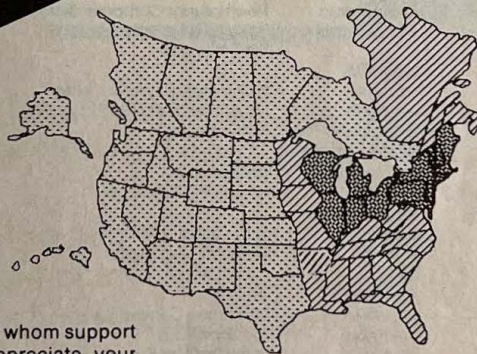
The best possible advice I could give you would be to use WordStar rather than EasyWriter because WordStar is much more powerful, as well as more stable and easier to reconfigure.

Charlotte Stone, office manager for the Detroit office of the Shaw/Walker Co., has been using a Sanyo computer in her daily work routine since October 1983. Brian Stone has been using a variety of Sanyo computers since May 1983. Both have been involved with computers since their first purchase in July 1978.



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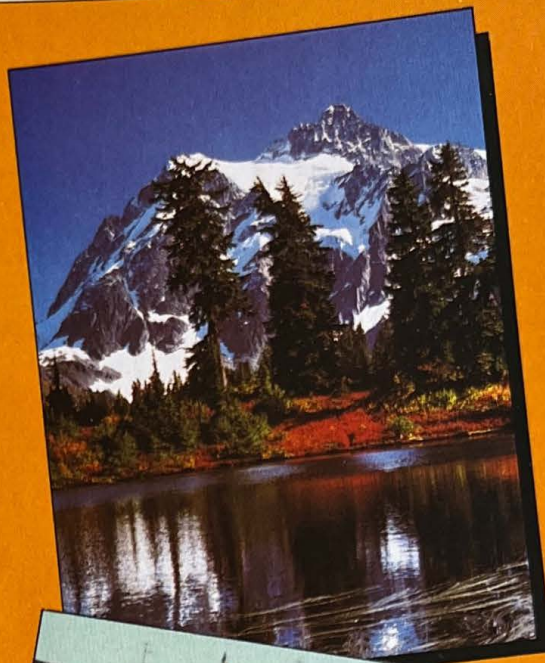
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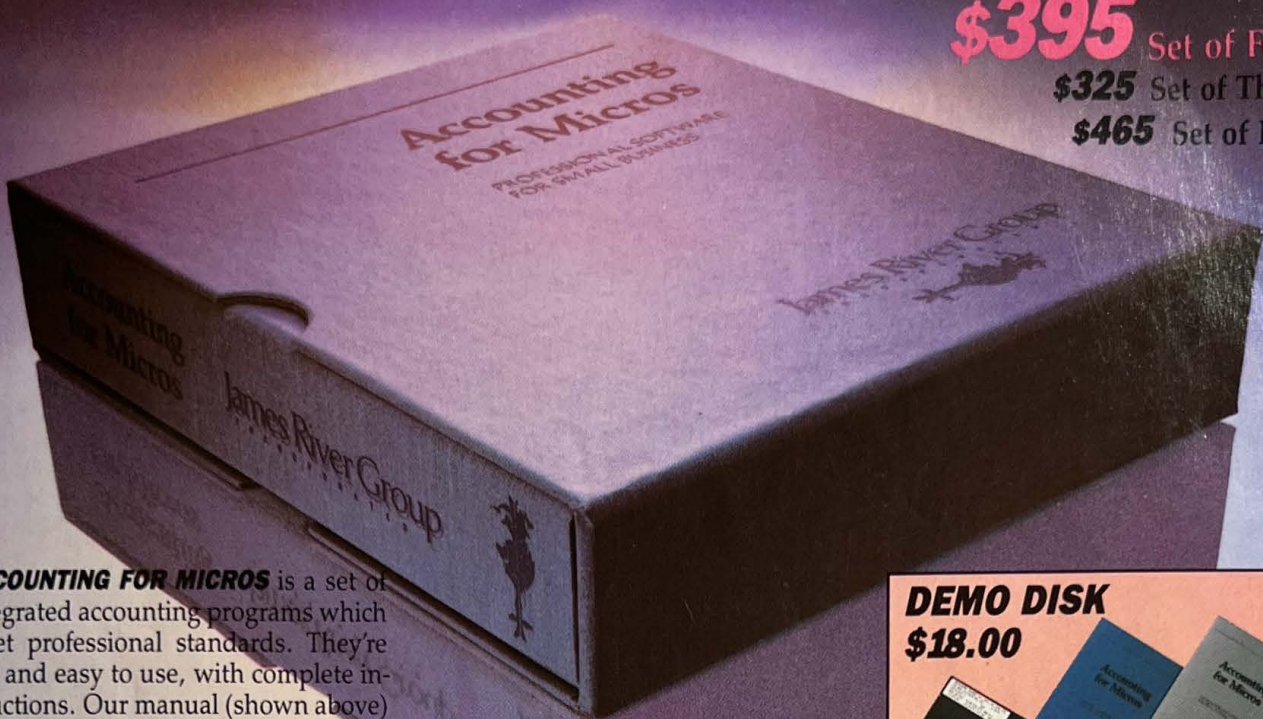
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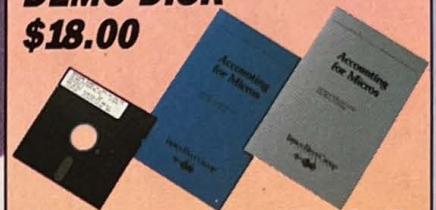
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